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Agricultural Matters Abroad.

[By our correspondent in Paris, Oct. 4.]

FEEDING CATTLE AND HORSES.—This is the period when cattle commence to be put on relatively drier diet. It is the moment when the farmer must estimate the quantity of provender he has to tide him over the winter and spring. If he be wide awake, and have fallen in with the system of *ensilage*, he need labor under no fears. Should the result of the survey of the situation be a short supply of fodder, he must review his stock and sell off the poorest animals, for the latter ever pay badly for their keep.

This is also the moment when cattle are tied up for winter fattening. To ensure the latter being profitable, very much depends on the price and the choice of the animals. For this purpose, the animal ought neither to be too young or too old. If the former, a portion of the food is relatively lost by the necessities of growth; if too old, the assimilation of food proceeds more slowly, the organs being more or less enfeebled by age. The animal should not be too lean, and of course exempt from disease, especially in connection with the lungs. Health can be readily recognized by the vivacity and brilliancy of the eye; the regularity of the beatings of the heart, the shining coat and the supple skin. An animal with a disposition to fatten will have the head and bones small, legs short, skin limp, muzzle large, temperament mild, and some insist on the whiteness of the horns.

On the Continent, horses experience in autumn the effects of the change of season. The farmers never reduce the feed of oats, but give the best hay and a few white carrots. Much attention is being given to the subject of economical feeding of horses. An attempt is being made to revive cooked rye, as a substitute for oats, and there is rather a tendency in general to cook or steep grains, rather than give them whole or crushed. I think the rule of Homer's heroes holds good to this day; they gave their horses "pure oats and dry hay." In Spain, climate must be taken into account; a very beautiful race of horses receive no other nourishment than barley, rarely bruised, and chaffed straw.

It is alleged that cooking grain for horses aids digestion, as much grain, when raw, passes through the stomach unchanged. In the case of oats, poultry find in horse dung plenty of undigested seeds, and so much so, that the latter do not lose their germinative properties. Oats contain in their pellicle a fatty oil and an aromatic resin, which stimulate and impart a transient force, as wine does to man. Now, cooking oats deprives the grain of this invigorating power. Some only steep the grain in boiling water to crack it, and so force open the feculent cellules; indigestions are thus avoided. Coachmen say, too, that colds are thus kept away. In Paris, when beans are given they are first soaked.

It is the high price of oats that compels the owners of horses to be ever in quest of substitutes. Oats are nearly as dear as wheat, and one-third more so than rye and barley. The latter are frequently given mixed with a feed once a week of good oats. In Sweden, grains are made into a meal, which is formed into baked loaves, and given to horses. Russia has applied the idea to biscuits for her cavalry when campaigning.

In Belgium and Germany the processes of economical feeding of stock are diligently studied. Cut straw and cake form a favorite soup for milch cows in the former country. In Saxony, boiled oats are in vogue. Soups are in esteem for fat stock, as well as for milch cows in Wurtemburg, but here roots are scarce and fuel plentiful. In autumn, as a general rule, the change of rations never takes place suddenly; the green and dry rations proceed on the half-and-half principle, avoiding passing from abundance to penury, and *vice versa*.

SAINFOIN.—In Alsace-Lorrain, Sainfoin is the favorite provender for cattle and sheep. That and carrots and beet, form the winter rations of horses and right well they look on the dietary. As the stomach must have a certain volume or distension by food to digest and remain in a healthy condition; hence, the value of straw, when grains or cake are employed. A stomach could not be supported on "essences" alone; it would become inert, and death ensue. Straw is a corrective, and a supplement to such aqueous food, as roots, cabbage, wash or pulp. It acts well with potatoes. Too much straw fatigues, however, the digestive organs, and is most relished for the first and last feeds of the day. Cattle do not drink so much after straw as after clover hay. One pound of hay is roughly viewed as equal to 3 lbs. of wheaten and 2 lbs. of oaten or barley straw; the straw of summer is preferred to that of winter cereals, and as it spoils, like roots, by being stored, that is to say from age, hence the necessity of feeding it off early in autumn.

POTATOES are apt to scour cattle. In Prussia, never more than the half of the total ration is given of the tubercle, and in the case of cows in calf, the one-fourth. It is essential to allow salt liberally. The raw potatoes are sliced, and the cooked, crushed. A mixture of potatoes and mangolds is excellent, though the former favor less the secretion of milk. All animals like carrots, and eat them with avidity; they are less nutritive, it is maintained, than white beet. Three hundred weights of cabbage are considered to be as good as one hundred weight of hay, and the stalks are estimated to be one-sixth at least more nourishing than the leaves; hence, why they are sliced up and boiled or fermented with the rest.

CHANGING SEED.—Agriculturists are commencing to pay more attention to the changing of seed, and the local farm societies throughout the country, organize exchanges. Where wheat may be cultivated on light soils, deficient in lime, change of seed every three years is imperative. The same applies to rye, if the land be strong and humid.

DAIRY FARMING is making important strides, and the progress is aided by the ensilage system, and the rapid consolidation of small holdings, the owners being unable to till them, and prefer to be comfortable farm laborers, or immigrants to the cities, than starved squatters. But the dairy mania absorbs all the milk, either to be sold fresh in cities, or converted into butter and skim cheese. It is the situation of the fishing port, that sends all its "catch" to the metropolis. The doctors complain, that the rural children are becoming stunted and sickly, from inability to obtain a milk diet; the substitutes of coffee-slops and beer-wash, being inimical to health. It is suggested to compel farmers to pay their workpeople partly in milk, or limit the export of it. One dairy-man in a village solves the difficulty better; he serves the inhabitants with milk all the year round at a fixed price. Good Samaritans suggest the organization of "cow clubs" for and by the needy. This might suit where there existed large landed proprietors, but in France there is only the *cultivateur* or the *métayer*. No proprietor would [illegible] for a moment of letting [illegible] acres to John Hodge to keep his cow, and so secure a supply of milk, to say nothing as to how Hodge is to obtain a shed, or the capital to purchase the cow. And even had he all these aids, the chances are quite on the cows, he would enter into an arrangement to dispose of all the milk, and fall back on bogus coffee, artificial beer, or manufactured wine. In Lorrain, celebrated for its robust inhabitants, the diet during nine months of the year consists of boiled potatoes and skim milk; after each bite of taty, a spoonful of the milk is taken. And in the mountainous parts of Germany, the poor hewers of wood and drawers of water have to exist on the potatoes without the milk.

OPEN-AIR "ENSILAGE."—M. Goffart was the apostle of the ensilage plan of conserving green forage in trenches constructed in masonry, or simply opened in a dry soil. M. A. Rouviére, of Aussillon (Tarn), is the Peter the Hermit of the plan of conservation, by stacking in the open air. He has been perfectly successful, and invites all whom it may concern to come and see. Nothing more conclusive. Thus all the expense is saved of constructing silos in masonry, with cement, and under special shed. There is nothing at all extraordinary in the process. The whole principle of ensilage lies in the absolute exclusion of the air by a regulated pressure from the green mass; and if such can be secured in a "stack," the preservation must be as efficacious as in a covered trench.

M. Rouviére has employed the stacking in the open air of green forage since 1883. He has given the analysis of his preserved fodder, and which shows it to be as rich as that conserved in silos. This spring he saved his whole lucern crop by stacking it green, as the spring was incessantly wet, and so prevented its drying. The following is the way to proceed: select the site where you please; immaterial if exposed to wind, rain, or snow; cut around an open drain to carry off the rain water, so that the bottom of the stack will be secured dry; commence the stack, which should be rectangular in form, having a width of six feet; pile the forage in even horizontal layers, and tramp down firmly at sides; place planks, one inch thick and seven wide, across the stack, then another row of planks to cover the joints like slates on a house; next range planks perpendicular to the first, nailing them at the ends. Let the cross planks project a little over the side. On the planks heap large stones at the rate of 16 cwts. per cubic yard; but apply only the one-half this weight the first day, and the remainder the following, when the mass shall have shrunk. The temperature will at first run up to 119 Fahr. degrees but will speedily fall, and remain stationary at 98 degrees. Leave the stack then to itself; only a slight external skin will be deteriorated. When it is desired to use the preserve, remove two or three, as may be required, of the planks and their stones, and cut the exposed mass, as if a hayrick. By not placing all the stones on the stack when completed, its leaning is thus avoided. A farmer has now no excuse for not *trying* this plan, with some maize, lucern, clover, etc.

ITEMS.—In order to revive the good old plan of women milking cows, some of the agricultural societies intend to have "milk-maid contests."

In the annual agricultural show to be held at Paris next February, there will be several innovations; there will be prizes for milk; for oyster culture; cider and perry, and for novelties in the *material* of agricultural education.

By the death of M. Barral, Secretary of the National Society of Agriculture, French agriculture loses its most brilliant representative, and science one of her ablest sons.

At Roscof and elsewhere in Britany, seaweed imparts a marvellous vegetative power to the soil. By its aid, thousands of acres are cropped with artichokes, asparagus and cauliflowers, for the Paris market. The weed is only allowed to be cut on a stated day, and 20,000 people at once set to work. With the aid of branches, posts, barrels, etc., immense rafts are formed, to float in the cuttings, which look like moving islands. Round the isles of Ouessant, the women rake the weed in from the sea; they remain for hours up to the waist in water, having their babies strapped on their shoulders, to sleep or suckle as occasion needs; the waves sing a lullaby.

THREE-FIFTHS of all cattle in the country, other than milch cows, are west of the Mississippi Valley. Minnesota, Iowa, Nebraska, Missouri, Kansas and Dakota have 6,308,009 this year, against 5,840,000 in 1883, showing a gain of nearly ten per cent. The gain in the ranching section altogether reaches six per cent. Five States, which have just begun the dairying business—Mississippi, Iowa, Minnesota, Kansas and Nebraska—increased the number of milch cows by 245,000 in the year, equal to nearly ten per cent.

Dew.

By R. PURYEAR, LL. D., Professor of Chemistry in Richmond College.

In our last article, we showed that the deposit of dew is most abundant on those objects that need it most. By another wonderful and beneficent arrangement, the deposit is most abundant when it is most needed. When is dew most needed? We answer in the spring and fall; particularly, in this latitude, in the months of April and May, and September and October. Why? In April and May, seeds are planted that are to fructify in the summer and autumn. They are covered slightly, only a few inches, sometimes barely one or two. They germinate in the warm and humid soil, and soon appear above the surface. But the young rootlets are so near the surface at first that a few dry days would so exhaust the surface soil of moisture that the plants would perish. Before the roots have struck down deeply into the permanently moist soil, and when they must rely therefore upon the first few inches of surface soil for a scant and precarious supply of water, kindly Nature, mindful of the situation, every night gives the baby plants a little extra pap in the form of dew.

It is obvious then that during the first days and weeks of plant life, dew is most needed, because at that time the rootlets must get their supply of water from near the surface, which is liable to become dry by only a day or two of hot, windy weather. A supply of water, extraneous to the soil, is needed, and that supply comes every night from the condensation of the aqueous vapor of the atmosphere. That the supply of dew is vastly more abundant in the spring and fall, when it is most needed, than it is in midsummer, when the need is far less imperative, is too familiar and obvious a fact to have escaped the notice even of the least observant.

Now, let us look into the cause of the fact; let us see the operation of these agencies, which give us abundant deposits of dew at those seasons of the year when vegetation most demands it, and diminish the supply when the demand is diminished.

Why should the deposit of dew be so much more abundant in April and May than in July and August? We will recur briefly to the mode of the formation of dew. Objects, to have dew deposited upon them, must become sufficiently chilled at night, by the radiation of heat, to condense the aqueous vapor of the atmosphere. All objects must be reduced in temperature to the dew point. This is much more easily accomplished in May than in August for two obvious reasons. In May the sun is not so hot, nor does it shine so long, as in August. The temperature of the atmosphere and of the earth's surface is not so much elevated in the day in May as in August. To get dew then objects have to sink at night to the dew point from a much lower temperature in May than in August. In the latter month, they must sink from eighty or ninety degrees, in the former, from sixty or seventy degrees, to the dew point. In order therefore to get a copious deposit of dew, plants have less work to do in spring or fall than in summer; but not only so, they have more time to do it in. In May and September the nights are longer than in July and August, and hence plants have more time to radiate their heat into space. In the spring and fall, plants, in order to get dew, have less work to do and more time for doing it, than in summer; and hence the abundant deposits in the spring and fall, and the scant supply in midsummer.

Why, one may ask, is dew less needed in the hot months of summer than in the spring or autumn? For an obvious reason. As the season advances, the roots are striking down deeper and deeper every day. In summer they are six, ten, fourteen or even twenty inches or more below the surface, where it is always comparatively moist. Rain may not fall for weeks, yet they are getting moisture from below all the time; but when plants have just completed germination and when their roots are near the surface, a drought of a few days would be fatal but for the nightly deposits of dew.

It may be asked again what is the necessity of the heavy dews in the early fall, when the crops are gathered and housed? Precisely the same as in the early spring. In the early fall, the seeds are sown which are to fructify the next year. Wheat and oats, rye, turnips, the grasses, etc., need the autumnal, as the already ripened crops needed the vernal, dews.

To another point I will call attention. To get copious deposits of dew, plants must be chilled; but if chilled too much, the dew is frozen into frosts, and vegetable vitality is destroyed. To secure a benefit, a danger is incurred; but in the very process of securing the benefit, the danger is weakened. Vapor is water with so much heat in it—heat in the latent state. When water boils, no matter how much heat we add, we neither make it nor the escaping vapor any hotter. Both have the common temperature of 212 degrees. All the excess of heat we add is simply employed in causing the liquid water to take on the gaseous form of vapor. Now when we condense this vapor, the heat, before latent, is evolved or given out. When aqueous vapor is in the process of condensation into dew, all its latent heat—that heat which made it vapor—is evolved on the surface where the condensation takes place. Consider a fine tobacco field, the broad leaves ripening in the mild September. The leaves lose heat rapidly by radiation, they become chilled, the aqueous vapor is condensed into dew, but in the act its latent heat is evolved, and so warms up the leaves, and thus diminishes the liability to injury from frost. The atmosphere immediately brooding over the leaves is sensibly warmer than the atmosphere elsewhere. If the same amount of water be sprinkled at night-fall upon the leaves, the cold may be sufficient to freeze it; but not sufficient if this water has been condensed from vapor, for the process of condensation throws out, in sensible form, the latent heat of the vapor.

The process of aqueous condensation, or dew formation, postpones the appearance of frost. Plants must become chilled to form dew, but, in the condensation of aqueous vapor, heat is thrown out to prevent frost. This battle goes on for weeks, until at last the increasing length and coldness of the nights get the advantage. The cold is too great to be counterbalanced by the heat evolved from aqueous condensation, the dew freezes as it forms, and the plant is killed.

We have shown the necessity of dew in the early fall to the crops that are seeded then, which are to live and grow through the winter and mature in the next summer. But some crops, already ripening, as tobacco, are remarkably benefited by the early autumnal dews. Little rain and copious dews in the early fall make tobacco leaves thick, heavy and oily. Alike, its weight is increased and its quality improved by comparatively dry weather and heavy dews. Dew then, to some extent, has a double function, furnishing to all plants, in the earliest stage of their growth, small but frequent supplies of water, when the supply from the soil is liable to be scant, and enabling others, notably tobacco, to attain, while approaching maturity, their highest perfection.

THE farmer who works to learn, as well as learns to work, gets a practical training, an equivalent of which no school or master can instil into his mind.

The Education of Farmers' Sons.

I have read many articles and listened to several public addresses on this subject, and I have never failed to be impressed with the, to me, radical misapprehension that seems to prevail in regard to the facts. Experience and a rather extended observation has forced the conviction into my mind that high literary cultivation is, as a general rule, the greatest drawback to practical success in farming. And whilst I am perfectly aware that literary and scientific knowledge of agriculture have greatly extended our resources for success in the business, I maintain that this knowledge has not been wrought by farmers, but it has reached them through the medium of labor and study of the scientist, the manufacturer and the mechanic; and that such advantages have been applied to their business with the same or greater facility by intelligent uneducated men as by educated farmers, and probably with a keener discrimination of their true value because of their greater practical knowledge. There are a great many educated persons engaged in farming, but as a rule the business of agriculture is in the hands of uneducated or not very cultivated men; and the fact is, practical farming, by which to make a living for a family, is incompatible with reading and literary reflection. Farming is a stern reality, and cannot possibly be learned in any other way than by actual contact with hard labor, exposure, frugality and disappointment. The only way to learn how to prepare the land, pitch the crop and harvest it successfully is to do it with your own personal hands year after year, and the same course is absolutely necessary in learning to handle stock profitably.

As a boy is to be made a farmer he must be trained to milk cows, litter the stock and make them comfortable in bad and cold weather, and to curry the horses off and use them in rain, sunshine and cold. He must be brought into continuous practical contact with all the disagreeables and drudgery of farming as well as its more attractive features and pleasures. And, likewise, if a grown-up man proposes to become a farmer he must, in order to be successful, forget every habit of the schoolroom, except application and attention. He must overcome the habit of physical idleness and be willing to support his brain with his hands and back by protracted physical exertion. Instead of reading books for his information he must apply his brain to the practical operations of the same and learn the secrets of farming, for those secrets may not be learned in any other manner.

Successful farming demands the industry and practical attention of its votary, both mentally and physically at all times, except whilst asleep, at worship, and during the time of refreshment and recreation. If a farmer undertakes to cultivate his literary tastes, in any liberal manner, he must have a pretty fair bank account, and not be dependent upon his farm for subsistence, or he will discover that the two things will not work together, and that they are in no manner connected with each other.

Farming is a natural means of making a living, and any man of brains, health and industry can make a living on a farm, and he could do it if there had never been a book written. On the other hand literature is an artificial pursuit, and could not possibly be sustained by any one if it were not for agriculture. It is not in any manner necessary to read books to learn the secrets of the soil. A practical farmer learns the secrets of his soil by reading the soil itself in its products, and that is the only way to acquire reliable information.

The education a boy requires, whom it is intended shall become a farmer, is the knowledge of his own language in reading and writing and arithmetic, to enable him to keep his accounts, etc., and history enough to give his mind this sort of taste as a means of recreation, and political information in preparation for any public position he may be called upon by his fellow citizens to occupy. All this he may acquire at any public school in Maryland or any other State, and he should reasonably attain such knowledge by the fourteenth or fifteenth year. He should then be withdrawn from school and placed upon the farm with his father or some one else who is competent to instruct him, and who should require him to perform the actual labors of the farm, and who, at the same time, should encourage him through the distasteful passages of a farmer's life by impressing upon his heart and mind a realization of the truth that the pursuit of agriculture is the most wholesome, healthful and happy life in the world, and the only universal means of making a living that was placed within the reach of man by the Almighty.

Keep your boy at school until he has acquired what your agricultural orator would allow to be a good agricultural education, and he will probably have acquired habits of body and mind that shall totally unfit him to make a successful farmer. By positive observation I learn that some of the most successful farmers in Montgomery county are men of very limited education, whilst there are many men of polished mind living on farms who would actually starve if they depended on their farms for a living.

Montgomery Co., Md. R. WATKINS.

Making Tile.

Messrs. Editors American Farmer:

Is there a practical device for making drain tiles out of cement? I want some 4-inch tile badly, but the prices for burnt tile are so high that I am thereby deterred from buying, and understanding how to mix cements successfully I naturally wish to experiment making tile out of them. Can it be done cheaply?

There are, I believe, in Baltimore several factories which make pipes out of cement, and the query arises are not their machines and resulting products sufficiently practical and inexpensive to warrant a farmer whose acres need draining, in purchasing one? There are many odd hours in which the labor of the farm can be employed in making tile, without detriment to the regular work, and thus narrow the cost of the tile, if given the machine for making it, to the cost of the cement and sand.

There is an invention which proposes to make continuous tile in the bottom of the ditch, but I regard it as unpractical, and would not give five dollars a dozen for the machines. A simple core with a surrounding detachable clamp or jacket would suffice a farmer's needs. Is there such device in use in your city?

Washington, D. C. R. S. LACEY.

[If any of our readers can supply the desired information we shall be glad to hear from him.—*Eds.*]

Income from Farming Capital.

This is the way in which the *National Live-Stock Journal* views this question.

Farmers have been accustomed to say that capital in farming did not pay; but this was when money brought from seven to ten per cent. interest. That time has passed, probably never to return in the older states. Money is most fortunately placed that, with good security, brings six per cent. Money is now easily borrowed, on real estate security, at five per cent. and in large sums at four per cent. We must therefore conclude that an investment in real estate which earns four per cent. is well placed; and at this interest it would require $15,000 to earn $50 per month.

Those who think that a mechanic's wages are preferable to the return for labor on a farm, have not properly studied the facts. We spent the past month of July in Madison and Chenango Counties, New York, and in examining the history of many farms, from their time of settlement, at about 1800, to the present time, found that the original settlers had reared large families and accummulated a surplus of from four to ten thousand dollars of money at interest on farms ranging from 80 to 120 acres. Let it be understood that these farms were heavy timbered, hilly lands, having been originally purchased at $5 to $10 per acre, requiring to be cleared at an expense in labor of $10 to $15 per acre, before anything could be raised from them, except maple sugar—a much more difficult task than the opening up of prairie farms. Yet, all these farms were hewed out of the dense forest, and the land worked among stumps for many years; but with all these hardships, there was got out of these new farms an income sufficient to rear and educate from six to ten children, and at the close leave a respectable surplus in cash.

We had a curiosity to see how these farms stood now, financially and economically, with the present owners, whether they were still yielding such income as gave independence and thrift to this generation.

In many instances we found the third generation in occupation, and these hill farms were still yielding the fruits of the earth in such abundance as to supply every want of the family, with a surplus every year, gradually producing a respectable accumulation. The question arose, what is the minimum investment in land, in this old, settled region, adequate to support a family, with land principally worked by its own moderate labor? Let us take a small dairy farm of 50 acres. Here we find ten cows, of common blood, but selected with considerable skill, producing, during the factory season, an average of 4,000. lbs. of milk per head, yielding an income of $40 each, or $400 per season, $50 received from sale of calves, and $200 from a small hop yard.

Besides this, the small farm produces the full line of supplies for a family of five—the parents and three children under ten years. There is an expenditure of $50 for hired labor; leaving a net income from land and owner's labor of $600. The entire capital here invested is $3,000. A fair interest for this would be four per cent., or $120 per year. That part of its productions consumed in the family, and not here accounted for, could not be properly estimated at less than $150. An average of $300 per year is laid by as accumulated capital.

We found instances where the whole capital invested in farm, stock, and tools did not exceed $2,500, although the number of acres was from 60 to 75, the land not being so valuable as the 50-acre farm described, yet the farmers supported, in quite independent style, families of eight or more persons.

With the same amount of capital, the mechanic in village or city is in a far less independent position. Even in the best of times the mechanic would have to work more hours than the farmer to get a living; and, in a financial crisis, the business of the mechanic stops, and he is thus liable to be without employment; but the farmer may go on with his line of products almost serenely indifferent as to the condition of general business, for whatever be the condition of trade, the people must eat, and his products are in demand. In a time of financial crisis, agricultural products furnish the principal business of commerce, as was the case after the panic of 1873. Nothing gives such hopeful confidence of future business as a bountiful crop. Farming is the foundation of all other business, and the capital of the farmer is the one kind of capital that always brings a fair return. The farmer has been able to make this fair return without making a careful study of all branches of his business so as to make the most of everything. He has every possible encouragement to study more carefully all the economies of his business. He has been proverbially too indifferent to improvements. We are glad to be able to say, however, that farmers are now making commendable progress, and they are anxious to learn from all sources at their command.

Smut in the Wheat Crop.

In order to eradicate smut from wheat, or rather, to prevent it, farmers should make themselves familiar with all that pertains to it. In this connection we refer to Prof. Bessey, who states that the term smut is popularly applied to two quite different diseases of the wheat plant. In this country it generally means a disease which leaves the grain nearly its normal size and shape, but filled with black and stinking dust. This is the one doubtless referred to by a Wyoming inquirer, accordingly it alone will be considered here. It may, however, be well to say that the wheat smut of the books, and also of the English farmers, is that which turns the whole head into a black, dusty powder, and is known in some parts of this country as blast, black blast, black blight, etc. The names by which the wheat smut is generally known in England are bunt and stinking smut, and under these it has often been described. It is a true disease, and, like many of the diseases of animals and man, is the result of the growth of a parasitic plant.

This wheat parasite, known to botanists as Tilletia caries, consists of slender threads of microscopic size which insinuates themselves between the cells and tissues of the young wheat plant, drawing therefrom the nutrient matters, and thereby reducing considerably the general vitality of the affected plant. As is well known, an ordinary plant consists of a great number of cells, each resembling a microscopic bladder, filled with protoplasm, water and some other substances. Were our eyes stronger, the interior of a young wheat plant would appear not much unlike a barrel of potatoes, the potatoes representing the cells. The cells in the plant, much as the potatoes in the barrel, have empty or vacant spaces between each other. Now, if we can imagine some slender plant growing up between the potatoes in the barrel and drawing nourishment from them, we will have a crude illustration of the way in which the smut parasite attacks the wheat plant. The parasite, however, not content with growing in between the cells of the wheat plant, and so robbing them, actually penetrates them, thrusting in branches and suckers here and there in order to more certainly secure their nutritious contents.

When the wheat begins to head, the parasitic threads push their way into the young kernels, and there find an abundance of food. Here the parasite reaches its highest development, and produces an abundant crop of its minute black spores, to serve as seed for the next year's crop. A wheat kernel thus filled with spores is generally a little shorter and thicker than a healthy grain, and always of a dark greenish color. Upon crushing it a most offensive odor is given off by black, dusty mass off the interior. Now, if we put some of this black dust under a good microscope, we shall see that it is made up of round bodies, the individual spores, which in these low plants answer the same purpose as seeds of the higher ones. When the smutted grains are broken, as many are in threshing, the spores adhere to the tuft of hairs on the normal grains, and are thus sown with the latter. I have repeatedly examined the good kernels in wheat which was somewhat affected by smut, and found that scores of spores adhered to them, especially in the hairs and in the deep fold that runs lengthwise upon the grain. When once they become attached they remain with great persistence, and it is very difficult indeed to separate them, so that a few crushed smut-grains may thoroughly inoculate a considerable quantity of wheat.

It has been demonstrated repeatedly that the disease is propagated by the spores, and that the sowing of seed containing smut spores is followed, under favorable conditions, by a new crop of smut. The spores can be readily germinated, and the process of growth watched for some distance, but, with perhaps one exception, all attempts to discover the exact mode of entrance of the parasite into the young wheat plant have signally failed. Still it can be shown that the infection must take place during the early growth of the wheat. Some years ago I made many careful examinations of smutted wheat in the fields, and found that the whole plant in nearly every case was affected, showing that the disease must have begun before the plant commenced "stooling out," and that it followed up the several branches as it grew. This accords with results of investigations made some years since in Europe by Dr. Fischer von Waldheim, who found the threads of the parasite in the lower joints of the young plants.

When we come to the question of prevention it is at once evident that whatever will destroy the spores or eliminate them from the seed-wheat will, in so far, lessen the liability to the disease. As the smutted grains are lighter than the normal ones, they can be floated out by throwing the seed-wheat into water and violently agitating it. The common "smut mills" of the millers may also be used, although in this case there is considerable danger of mechanical injury to the normal grains. In whatever manner the smutted grains are removed it must be borne in mind that many spores adhere to those which are not smutted, and those spores must be removed or destroyed, or but little good will come from the operation. This last may be accomplished by the use of caustic lime, which may be applied in the dry state to the wetted wheat after the washing spoken of above. A solution of blue stone (copper sulphate) is also much used by English farmers for the same purpose, and appears to destroy the life of the spores without injuring the wheat.

It is utterly useless to make an application of any kind whatever to the growing wheat before "heading" by way of prevention or remedy, the disease being an internal one, as shown above. So far as I am aware there is no variety of wheat which is smut proof or even approximately so. Where a farmer is obliged to make use of seed which is considerably smutted the best plan would be to first thoroughly wash the wheat and flood out the smutted grains, and then to sprinkle caustic lime upon the wet wheat. By so doing the danger of a recurrence to the disease will be greatly lessened. To reduce the general liability to smut in any locality or upon a farm, care should be taken with the seeds as above, and in addition there should be such a rotation of crops that a considerable interval will intervene between each succeeding wheat crop.—*Cor. Rural Home.*

Cranberry Culture.

The cranberry generally cultivated is the bugle, the bell and the cherry. The cranberry may be found growing naturally in many places in marshy places, where it takes root among the grasses, and grows year after year, usually spreading out and covering all the ground at least near the edge of the marsh. Berries thus grown are small and so far as we have ever known, have never been used for market berries, not that they are unsalable, but it would hardly pay to gather them. They do not grow very thickly under such circumstances, for as would naturally be supposed, the grasses choke out a great many of the vines. But cultivation has been reduced to a science, and the yield not only made large, but the berry has been improved in size. During the last twenty years the demand for cranberries has been largely increased. In New England the cranberry stands next to beans in popular estimation. A Thanksgiving dinner without cranberry sauce would be an insipid occasion to the New Englander. But the New England people have not alone taught us to regard baked beans with favor. They have introduced other customs which they make conspicuous in their lives, and while they have been spreading knowledge of their ways in general they have improved the cranberry market by teaching us what an excellant sauce it makes. The increased demand may not be wholly attributable to this cause, but it has had something to do with it.

In counting upon success in cranberry culture, there must be a complete control of water, that the land may be flooded and the water drawn off at pleasure. We do not mean to say that cranberries cannot be grown and grown successfully, without flooding, for that would not be true. But flooding is a great aid. It gives full control of the vines, preventing insects from getting a start in the spring. It also helps to keep down injurious weeds. In this section, or rather in Wisconsin, the water is usually drawn off toward the last of May, it having remained from just before the setting in of cold weather the previous winter. It should be let on before the ground has frozen hard, but not before it begins to freeze. The depth of the water should be sufficient to prevent the plants from freezing, which in the North would be at least two feet. In all sections where there are apt to be late frosts, there should be no hurry about drawing off the water in the spring. It will pay not to be in haste. As long as the water keeps cool there is no danger of its hurting the cranberry plants. This is the only flooding that is done. Sometimes in case of drouth water is let on the beds, but this should never be in such quantities as to deserve the name of flooding.

The cranberry may be propagated from the seed, but it is not the best way. If this plan is adopted sow the seed in drills and keep the ground free from weeds which may be done either by hoeing or mulching with sand, if it is on low land. But the plant is very easily propagated. The vines may be set out whole; or they may be cut up and the pieces saved. Every joint will produce a plant. In preparing a cranberry bed, sand will be found very useful. Even if the soil that is sometimes excellently situated for growing cranberries, is not too rich—which is sometimes the case—the sand on the surface will help keep the weeds down besides making the surface open and friable. The marsh needs to be thoroughly prepared. There should be a ditch dug all around it to take the surface water so that the land may be cleaned. The surface water drawn off, clear off every incumbrance, burning whatever will burn, if you are so inclined, provided the ashes will not injure the soil. Some remove the surface soil to the depth of a half foot, but the use of sand on the surface will accomplish precisely the same results. Make an embankment around the plat with the soil that has been taken from the ditch if it is compact enough, but if not make the embankment of some other soil. Prepare your land one season before planting as that will give opportunity to get rid of all weeds and to otherwise make the ground clean. It will be very difficult to remove brush, roots, etc., after the piece has been planted. When the land is solid enough to plow and harrow do it by all means. Having got the land level and clean, put on the sand to a depth of from four to eight inches, the quantity being de-

termined by the condition of the soil. A loose soil will require more than one that is compact, as the sand will sink into the former. Fix flood gates in the embankments and you are ready for planting.

Plant in the spring or fall, spring being preferable. If planted in the fall, the bed must be flooded during the winter. Set in tows two to four feet apart, according to the character of the plants you are setting, the object always being to cover the whole surface with vines as quickly as possible. Plant in small holes and press the earth closely about them. If the vines are cut and pieces planted, do it with a view of covering the ground with vines as before stated; if planted the pieces may be planted in rows twelve to eighteen inches apart.—*Western Rural.*

Sumac.

Ever since the war sumac has been an article of regular production in the United States. Previous to that time the use of sumac in this country had been comparatively insignificant, while we import a good deal annually from Europe. After the war the negroes and poor whites in Virginia were encouraged to gather the leaves of the sumac, then growing abundantly in a wild state there, by the ready sale it commanded, and mills for its grinding were set up in Richmond, Petersburg, Lynchburg and other places. This was immediately heralded by the newspapers as a new industry, which was the fact, but far greater importance was given to the fact than it really deserved. The American sumac was from the first and is still a direct competitor for many uses with that raised in Sicily, but the latter has steadily sold at a materially higher price, its value in the market to-day being one hundred dollars to one hundred and ten dollars per ton, as compared with seventy-five dollars to eighty dollars per ton, which is the selling figure for the American. The article is used in dyeing, as a mordant, and in tanning, for the manufacture of goat skins into morocco. The American sumac is said to be fully as strong in tanning as the Sicilian, although the analyses may have varied greatly, which is probably mainly due to the different plants tested, and the different stages of their growth. American sumac, however, has a greater proportion of coloring matter than the former, but is not, as a rule, as carefully gathered, cured and ground as the Sicily article. The plant has been carefully cultivated in Sicily for generations, while most of that gathered here is of wild growth, although the probability that it would make a good paying crop, under proper cultivation, has been repeatedly urged.—*Ex.*

Live Stock.

Put Yourself in Your Horse's Place.

"It is worry and not work that kills." Let every owner of a horse think, when he brings his team to the stable at night, how much vital force has been expended in work and how much in worry, and then strike a balance. And let him consider himself to be put in the horse's place, so that he may better know how it is himself. And thus:

A man goes out to work in the morning after having all night fought flies of the most pestilent kind, breathed hot, foul air, reeked in the sweat and dust of the previous day's work, eaten a breakfast in haste, without any sufficient cleansing of his skin, and with boots and clothing ill-fitting and galling the tenderest spots upon his person. He is then, from the filthiness of his body, exposed all day to the venomous attacks of flies which he fights with hands and feet, but which, from the exigencies of his work, he can only drive off for the slightest moment, after which a cloud of them settle upon his face and exposed parts and sting him severely. He works on from hour to hour in the broiling sun without water to moisten his mouth or to quench his raging thirst until mid-day, when he rushes home, swallows a drink of dirty water and hastily eats a dinner in the foulest smelling and worst ventilated part of his premises. The afternoon is like the forenoon, and after this has been occupied in the same way, the man, all foul with gathered dust and sweat, eats his evening meal as he has dined, and lies down to rest (?) if he can, on a filthy floor, in an apartment that is hot, close, and swarming with flies, which he vainly fights as he catches an odd wink or so of sleep. And so, *de novo*, from day to day he fights it out on this line all summer. Then how much of the resulting wear and tear is due to the worry and how little of it to the work?

Something like this is the weary condition of the average farm horse. No note is taken of the cruel lashing, the injudicious feeding and watering, the torment of check reins, the hindrances of blinders, the bad treatment of the feet by the blacksmith, and other mistakes which produce actual disease, nor of the truly horrible nostrums and poisonous stuff which are made use of as "remedies" for these complaints. Thinking of all these things, who can wonder that the average farm horse, whose useful life is naturally 25 to 30 years, gets into a hole in a corner of the farm and is consumed by prowling dogs in less than half his allotted term of life?—*New York Tribune.*

The Driving Horse.

No youth should be permitted to have, own or drive a good horse for pleasure, until he understands how to care for it properly, and does so. The only way to keep a good horse so, is by care. If you do not have to do the work yourself, it is necessary to know how, so you can intelligently direct the labors of others. Before starting for a long drive, do not, as some foolishly do, give your horse an extra heavy feed; but give him only his regular feed, and leave the extra for him when he comes back. Drive moderately for the first few miles, until your horse gets settled, then you can go faster without injury. Many a fine horse has been spoiled by feeding heavily, harnessing at once, and then putting him down to his speed from the start. When returning, slow up and walk your horse, or only jog him, for a mile or so from home, if you have had a long or a spirited drive, so as to cool him off. It does not hurt a horse to water him while en route, even if he is warm, unless he is much over-heated, if you do not give him too much, and do not stop longer than to have him watered. The perspiring workers in the harvest field drink liberally of water and keep on with their work without injury. It is only the extremes that work injury to man and beast. If the horse is warm when brought in, sponge out his mouth with cool water, and rub him down briskly with wisps of straw until he is dry, and walk him around if he is very warm, to cool off gradually. If the weather is hot, put him in the stable, let him remain unblanketed, (unless he has been clipped,) and out of a draught. If the weather is cold, put on a light cover until he cools off and dries, and afterwards blanket or not as has been the custom. Have the shoes reset once a month. Use plain shoes with the heels a little thickened—not calked or toed, and five nails will generally be enough, if properly put in. In times of ice and sleet when the roads are slippery use frost nails, renewed as often as necessary, and you will have no trouble from slipping.

Keep him on a ground floor, in the stall. If the feet become dry and hard do not use oil or grease, but clean out the feet, soak them in salt water, putting one foot at a time in a bucket, and then chafe briskly until thoroughly dry. After this at night fill the foot with fresh cow dung, well pressed in, letting it remain in over night, and cleaning out next morning, and washing and chafing as before. Two or three applications of this simple remedy will generally effect a cure.

For a puller or lugger use a large leather or rubber-covered bit, not a twisted or curb bit. We cured one of the worst luggers we ever owned by adopting just such a bit. The former is humane and effective, while the latter is cruel in the extreme and makes the horse much more desperate and dangerous.

A little linseed meal, given occasionally, will help to keep the coat bright and glossy. If the horse has been out to grass and "slobbers" badly, just before you are ready to start give him a head of cabbage—one which is not hard enough for use or sale will do—and it will remedy the unpleasant habit. In grain, oats—good, bright and clean—should be the principal food, with an occasional mess of cut feed, roots, etc., to break up the monotony. Bright, sweet timothy hay only, or bright and well-cured corn-blades should be the only hay given. Clover is not fit for a driving horse, though it may do for work horses.—*Country Home.*

Sheep Suggestions.

The possibilities of a foreign trade in mutton are shown by the fact that in 1880, 400 carcasses were sent as an experiment from Australia to England, a voyage of 12,000 miles, and across the equator; while in 1883 this trade had grown to 185,000 carcasses, and in 1884 so far the shipments have been at the rate of nearly 400,000. This latter quantity is equivalent to about one-third of the whole supply of the largest market of the great city of London. The United States exports about one-third as many carcasses of mutton as are sent from Australia, but when 12,000 miles are compared with 3,000, and four weeks with one, it seems as though we had a very great advantage over the Australians, and enterprise—and mutton—only are required to get a satisfactory portion of this trade. The sheep, or rather the shepherds, are down just now; but scarcely with reason, with this bright opening in the Eastern horizon gleaming over us.

2. The connection between dogs and the absence of sheep scarcely needs pointing out; but figures show very clearly why the profitable sheep is not seen upon at least 35,000 farms in Massachusetts alone. For of the 44,000 farms in that State one dog at least is kept upon each of 35,000 of them. And whereas, forty years ago Massachusetts had 460,000 sheep, now there are only 65,000. And yet there is no better market for good mutton and lambs than Boston, and this city is the great wool mart of the country.

3. A good ewe well kept pays for its keep in wool; the manure pays for the labor, and the lamb is the profit. A three-months-old lamb of the right kind is easily worth more than its dam, so that the profit is clearly more than 100 per cent. A flock of a dozen sheep will easily pay a farmer $100 a year if only for the domestic consumption of meat, and there is not a twelve-year-old boy or girl upon a farm who would not feel proud and happy to say he or she owned such a little flock.

4. A friend who is a successful farmer, and was once a successful business man, has *a thirteen-year-old daughter* who owns a flock of twenty sheep and cares for them in the most exemplary manner. It is her flock, and no one else interferes with the management of it. She has already a bank account where the profits are beginning to accumulate. But the greatest profit of all is in the training and discipline of this girl, who is attached to a farm life, and is acquiring habits of thoughtfulness and carefulness which will make her a very useful member of society, under whatever circumstances fortune may have in store for her. It seems to me that this is an example that many other farmers' daughters might usefully follow.

5. A young Spartan once complained to his father that his sword was too short. "Add a step to it," retorted the sturdy old soldier. The advice to *get nearer the work* applies especially to sheep keeping. This business pays better even with wool down to 30 cents than other farming, just because the majority of men do not get close enough to their flocks.

6. A badly bred sheep may revert to the original type, in which the wool is nothing but coarse hair, having merely the felting property only of true wool; and such a sheep will have a fleece that is part hair and part wool. This hair is called kemp, and seriously injures the wool, not only by its presence in it, but also because it cannot be separated and it will not take the color in dyeing. It is thus one of the worst of all the defects wool is subject to. It is found on the shoulder, the flank, or in the wrinkles of Merino sheep, and is more common on this breed than upon others. It is a fatal defect in rams, because a kempy ram will produce kempy lambs, which may be worse than himself, and the defect is very apt to increase by inheritance. This defect knocks off one-half the value from a fleece.—*Cor. N. Y. Tribune.*

Sulphur and Sheep.

The Texas *Wool Grower* gives its views on this subject as follows: A few weeks since one of the Tarrant County flock owners writing to this paper stated that he had cured his sheep of scab and had kept them clear of scab since the cure, by feeding sheep sulphur with salt in the proportion of one-third sulphur to two-thirds salt. Now we have a letter from Lampasas County asking several questions connected with the use of sulphur, and reminding the *Wool Grower* that it has appeared as advocate for the use of sulphur as a preventive of scab. The object of this correspondence is to gain practical information leading to the eradication of scab by simple methods.

With a few remarks on this subject it will be turned over to sheep raisers to handle and answer. It is one no one man can cover by his individual experience; yet of such importance that if 100 men would give their views it would be well worth the time and pains taken by each individual, to themselves and to the industry at large.

Last year a veterinary surgeon attached to this paper wrote on the subject and advised sheep raisers not to feed sulphur to sheep until there was no danger of sheep catching catarrhal affections from cold rains after the sulphur had become diffused through the system, but allowed that sulphur fed to sheep regularly during warm weather had a beneficial effect in protecting animals from the attacks of ticks and insects.

We firmly believe that sulphur does not and never has received the credit to which it is entitled as a preventive of scab, although this conclusion is arrived at more from reading and learning of others than from any direct practical experience. Sulphur, like salt, is an important, essential element of the blood, muscles, skin, hair and other parts of animals. It is necessary for perfect health, although vegetation eaten sometimes affords sufficient to preserve the health of animals, yet we have noticed in travels in sections where the water is impregnated with sulphur that all kinds of stock are very generally free from ticks and have the sleek appearance of healthfulness not so common in other localities.

Sulphur forms an important element in several sheep dips. It is the principal ingredient in one and secondary in another, and then the application is external. How much more efficacious would it be reason-

able to suppose it is if largely entering into the system? The sulphur cure is worth what it seldom gets, a perfect trial. It is only reasonable to suppose that it has some merit, as on human beings it is used to cure diseases similar to scab in sheep, and to purify the system, and in warm weather it is used without the slightest danger of stock catching cold. It is the recurrence of scab that is the cause of so much trouble to sheep raisers, and whether with reason for it or no, we believe that a shortage rather than surplus of sulphur in the blood goes very much toward preparing congenial ground for the ravages of the scab mite. We believe, and do so from often having heard it asserted that clean sheep can run on a scabby range without danger of infection, provided that this preventive element is sufficiently impregnated in the blood to have the desired effect that is to say, sulphur is a preventive, even if unaided it is not sufficiently strong to destroy the minute insect after it has once obtained a strong hold on the sheep.

Here for the present this subject is passed on to others. If anyone has cured scabby sheep with sulphur let them come forward and give their experience; if they have reasonable belief that sulphur has held sheep clean while on scabby ranges it may encourage others to make a thorough test of what might be a very cheap and simple remedy for scab.

Cutting Feed for Stock.

Some have supposed that straw and corn fodder had, really, very little nutriment, and only made bulk in the stomach. But this is quite erroneous. Most pioneer farmers have seen cattle living on the buds and twigs of trees, cut in mid-winter; and if they can digest such woody food as this, it seems quite reasonable that they can digest well masticated oat straw or corn fodder. Straw is very poor in albuminoids, but its digestible carbohydrates are nearly equal to that of meadow hay. It requires food rich in albuminoids to mix with straw. If 200 lbs. of linseed oil meal, and 200 lbs. of middlings are mixed with 2,000 lbs. of oat straw, the combination is quite as valuable as meadow hay, and would even keep cattle in better condition over winter. And if hay were worth $10 per ton, then, by adding $3.50 to one ton of straw, you have what is equal to 2,400 lbs. of hay, or the straw is worth $8.50 per ton; and running the straw through a cutter would greatly assist in making it thus valuable.

Now, as to the question whether it will pay the cost of labor and machinery to do this cutting, it depends upon the amount of stock kept. A large cutter and power will do the cutting much more rapidly, and therefore cheaper, than a small one. With a large cutter and an adequate power, two tons of straw, or corn fodder, or hay can be cut per hour. With a small stock it would not pay to buy these machines, but it might pay to hire the cutter and power long enough to do the cutting, as in the case of a threshing machine; but with a large stock it would pay well to own the cutter and power. The writer of this has cut many hundred tons of these coarse fodders, and has long been well satisfied that the labor has been more than paid for. When hay is high and straw plenty, it is much cheaper to feed grain with straw or corn fodder. Corn fodder, when the corn is cut and shocked while the stalk is green, as it should be, is worth more than straw for feeding, and corn fodder, as we have seen, is most benefited by cutting very short.—*Nat. Live-Stock Jour.*

If you have been so unfortunate as to have left any manure lying in your barnyard all summer, it may now be applied on the pasture, if well decomposed and any substance is left in it. Spread it evenly; don't put it in heaps.

Feeding Pigs.

The food of pigs till five or six weeks old must be chiefly the milk of the dam, and some good breeders keep them on the dam till eight weeks old. The dam must be well fed, and fed for the largest milk secretion. The amount of milk she yields will have a decided influence upon the favorable start of the pigs. If a dairy is kept upon the farm, then, after two weeks old, the pigs should be taught to drink skimmed milk, and they should have this, at first, sweet and warmed up to blood heat, and all they want of it. When they are over three weeks old, a little middlings should be added to the skimmed milk, and they will learn to eat this food, that must be used at weaning time. No corn meal should be given to pigs, under two or three months old. Some think a little shelled corn may profitably be given to young pigs, but they are better without it. It is not fat that you want to put on to the young pig, but you want to grow the muscles and bones—produce a rangy frame. There is plenty of fat in middlings, and middlings is a cooling food, with nitrogen to grow muscles, and phosphate of lime to grow the bones; besides, middling ought to be as cheap as corn, especially in Kansas, where so much wheat is grown. When the pigs are ready to wean, they will be the better for a little linseed-oil meal, mixed with the middlings—say one pound to five pigs per day—and if it is not easy to get the oil meal, and flaxseed is raised near, buy a few bushels of that, and boil in six times its bulk of water, and it will form a thin gelatinous substance, which can be mixed with other food. Not more than one pound of the seed should be given to six pigs. They soon become very fond of it. A little of this boiled flaxseed is, perhaps, the best preventive of disease, and at the same time it assists in the digestion of other food.—*Nat. Live Stock Journal.*

Don't Wait for Ripe Corn.

Col. F. D. Curtis, who has had much practical experience in pig-feeding, advises pork raisers not to defer fattening their swine till cold weather, or corn-husking time, and thus get them ready for market when the price is the lowest. He elaborates his idea as follows in the Farm Journal:

"It will always pay to begin to fatten animals in warm weather; they will gain almost as fast again. This has been demonstrated a great many times, and it means all the difference between loss and gain. I know it. Any farmer can better afford to pay the interest on money and buy feed to push his animals ahead in warm weather than wait till his corn crop is available. There is another important fact which is a part of the science of it; in warm weather there is plenty of grass, or other succulent food to go with the grain and so promote digestion and health. All such meat is better as well as cheaper. A hog which has nothing but corn to eat does not make such good pork as one which has grass and other foods with the corn. Grass is the best of all foods to make flesh, or milk, or good butter."

Mr. A. B. Allen, another authority in all such matters, urges in a letter to the *National Live-Stock Journal*, beginning to feed corn as soon as it reaches the milk state, being then highly serviceable in hastening the fattening of steers at pasture. Mr. A. S. Fuller adds the weight of his opinion to the same effect:

"It has been claimed, and we think with good reason, that an acre of corn in this condition will make 20 per cent. more beef than when fully ripe. It is also better to feed to young and growing pigs than ripe corn, as it is all digested, as may be seen by an examination of the droppings of animals fed upon it. Farmers who have plenty of corn cannot do better than to begin feeding it while it is in a succulent state."

Caked Bag.

Inflammation of the cow's udder, also commonly called garget or caked bag, is of frequent occurrence, and inquiries often come to hand concerning its causes and treatment. It is an ailment which is often very tedious and troublesome to deal with, and attended with considerable loss to the owner.

Among the numerous causes, may be mentioned, plethora, arising from high feeding, and more particularly if on rich pasture; constitutional derangement, either of an inflammable or febrile character; inflammation of the papilla or teat, either arising from general or local causes, such as cow-pock; also from foot-and-mouth disease; injuries from the horn of another cow; jumping over rails; not unfrequently blows from a thoughtless or vicious herdsman; a thickened or scirrhous state of the sphincter of the teats, which, indeed, is a very common cause, often proving very troublesome.

It frequently occurs that the person having charge of the milking, has been doing all in his power, using much force to draw away the milk by his hand; and he will tell you of the difficulty he has had for many days, perhaps weeks, till at last he could not get away a drop of milk; and that he has passed up the teat a quill for the last few days, but now he can do so no longer, the whole extent of the channel being very much inflamed, not unfrequently ulcerated, and very sensitive. Many cases of this kind are discovered immediately after calving, the sphincter being so completely closed that not one drop of milk can be obtained, and that quarter of the udder enormously enlarged, as the secretion is at this time profuse. This, if not relieved, often extends to the whole udder.

Treatment, of course, must be varied with the circumstances of the case. If slight in its attack, a mild purgative, and bathing the parts occasionally with tepid water, will generally be found sufficient; but in an aggravated form, it will be necessary to give a more powerful purgative. The udder must be frequently bathed with tepid water, and if the bowels are not acted on after eight to ten hours, or if at first they are constipated, which is generally the case, frequent injections per rectum will prove of service. A poultice to the udder is of great benefit; but there is much difficulty in properly adjusting it. Probably ground flaxseed, made into a soft paste with warm water, will answer better than anything else.

Febrifuge medicine, such as the nitrate of potassa, in doses of from two to four drachms; tartarized antimony, half a drachm, combined with a carminative, may be given in a little gruel twice a day after the action of the purgative agent, until the inflammation is subdued; but if the bowels are too freely acted on by the tartarized antimony, omit this, and substitute opium, in one drachm doses, once or twice a day.

The ailment seldom or never terminates in resolution in aggravated cases; that is to say, a perfect restoration of the secretory gland; but it generally ends in suppuration, this being sometimes on the surface, but most frequently in the body of the gland. When the morbid secretion can not be drawn from the teat, the animal may be much relieved by making an incision at the most pendant part of the udder in connection with the top of the teat, and this can not be done too soon after the duct is closed. If pus is discovered in any part of the gland, plunge the lancet in, and give a free exit immediately to it, as by allowing it to remain in until the abscess bursts, it may become absorbed, and the whole system contaminated.

The health of the animal, in severe cases, generally continues much impaired during and after the formation of pus, and this must be combated by the daily administration of tonic medicines, and the application of a stimulant to the udder, in order to keep up the tone of the system. If a still more formidable termination is suspected, namely, that of mortification or death of a part, we must immediately suspend febrifuge medicine, and commence with tonics and diffusible stimulants, such as spirit of nitric ether, tincture of opium, ginger, and caraway seeds. The animal must be supported by a liberal supply of nutritious, easily-digested food, together with sliced turnips, carrots, etc. If the appetite be entirely gone, oatmeal gruel must be frequently given from a bottle.—*Prairie Farmer.*

Lice on Swine.

The breeders of high-bred swine are greatly annoyed by the presence of lice. At this season of the year they are often astonished by the sudden appearing of the vermin on pigs that have the best of care. Grease is the common remedy, but as the dust settles on the skin and gives a most untidy appearance, I sought a remedy free from this objection. I have, for some years, used carbolic acid and buttermilk, and found it efficient, cleanly and rather beneficial to the hair and skin. A teaspoonful of either crude or crystal carbolic acid, thoroughly stirred and then sprinkled upon the swine from a sprinkling-pot or with a whisp broom, will destroy the vermin as completely as grease, coal oil or tobacco water, with none of their bad effects.

Pure coal oil should never be used, as it often causes sores and pealing of the skin. I have found it mixed with lard, half-and-half, free from this objection. If the application of pure coal oil should make the skin sore, a thorough rubbing with lard of the parts affected will give relief—if done soon. Last summer I applied pure thrum, a teaspoonful to a gallon of water, and found it killed the vermin almost instantly, and delighted the pigs as the day was warm. The skin and hair was not affected. This remedy can be applied more easily than any other, as all well-kept pigs are tame enough to stand still during the application from a sprinkling-pot, and not many will stand to have grease and oil applied as it should be without being shut into a close pen.—*Cor. Grange Bulletin.*

The Dairy.

Dairying.

A Farmers' Meeting, held at Manchester, New Hampshire, in September, on an evening of the New England Fair, was devoted to the discussion of dairy topics. The *Massachusetts Ploughman*, had a phonographic report made, and from it we extract the following interesting portions:

Butter Making.

President Brown.—We often hear of men who carry on butter making, make good butter, and make the business profitable. I think we have such an one here, and I would call upon Mr. A. W. Cheever.

Remarks of A. W. Cheever.

I would very much prefer to have a churn full of cream here ready to go to work upon than undertake to speak to this audience about butter making. The subject is so large that I do not know where to begin to talk about dairying. I do not like to come here and rehearse my own experience; that would not seem just right; and I do not like to rehearse anybody's else.

The Cause of Poor Butter.

A Voice.—Tell us what is the cause or causes of not more than ten per cent. of the butter sent into market being good.

Mr. Cheever.—One word only—*ignorance;* and it is a long ways from ignorance to knowing how to do anything well that requires so much skill, constant study and constant attention, as dairying; and the time is not to come when all dairy products are going to be good until education is very

much more widely diffused and general than it is now. It is not an easy matter to make butter, either in Vermont, or Massachusetts, or New Hampshire, that will bring the high prices that have been mentioned here this evening, and higher prices have been received than have been mentioned. It is now not an easy matter, I say, to do it. It is going to be a long pull for the farmers of New Hampshire to raise the quality of their butter product 25 per cent.; and yet there is no reason why it cannot be done. There are so many things that tend to make butter products poor, that it would take not only this evening to talk about them, but it would take a whole dairy convention a week next winter, and another one the winter after, and so on, until we are all a good deal older than we are now.

QUESTION.—Mr. WETHERELL asks if more than ten per cent. of the farmers of New Hampshire are good farmers?

Mr. CHENEVER.—I cannot answer that question. "Good" is not a definite term. More than nine-tenths of them might be better farmers—no doubt of that. (Applause.)

I don't know what advice to give. The first step towards improvement is to know one's ignorance, and the butter of New Hampshire and of all the States of New England is no better than, nor as good as, it might be. You cannot expect to make it perfect at once, but by getting together as members of farmers' clubs and talking over your troubles, telling what difficulties you have to encounter, and helping each other by explaining your successes, you will improve your product, slowly and gradually. Your dairy meeting ought to be much more largely attended than they are. I am reminded of a statement that was made to me a few days ago while passing through the great, rich and excellent agricultural State of New York. A man living in Western New York in the very garden of the State, said to me that not more than three out of four of the farmers of his acquaintance more than just barely got a living; at the end of the year they had nothing to show for their work but their bare living; the other quarter were students, constantly looking about for better methods, studying their business, and they were successful and made considerably more than a living. I found in passing through the State and talking with everybody whom I met about the agriculture of their own State, that a large proportion of the farmers there are not readers. I asked one man what paper he took—it is a question I am apt to to ask. He said he did not take any. I asked him if he thought he could get along on a 200-acre farm and be successful without reading upon matters pertaining to his business. He said he didn't think there was anything about farming except to get the crops in early in the season and take good care of them; that was all there was to it. From a man with a vision no wider than that, I should expect poor dairy products and poor products of any kind that he might undertake to make that required much skill.

Dairying in Vermont.

I want to say a word for the Vermont Dairymen's Association. I went up there ten years ago, more or less, to report the doings of their winter meeting. I had been making butter a few years then as a specialty. I wanted to learn more, and I went up for a selfish purpose as well as to report the meeting,—to learn what I could personally about making butter; and I will say that my success has been very largely due to the influence of the Vermont Dairymen's Association on me personally and my business. The best educated men, the most practical men of the whole country have been called there once a year to tell their story regarding dairying in some of its branches. They have managed to carry their association along very economically. At the time it started there were a good many men of prominence who were willing to go to the Vermont Dairymen's Association every winter and exchange labors for what they could each learn, without much remuneration; sometimes their expenses were paid and sometimes not. The Association has gone along and accomplished a great deal with a very small outlay. But they have always labored under the difficulty of being a little dependent; they have to beg a little every year. This is not letting out secrets that ought not to be told, I hope. They have had to get hotel keepers to promise to make a large reduction on their prices; they have had to get men to contribute to pay the expenses of their meetings; they have had to get help from the railroads; they have had to get new members to join and pay annual fees; some have paid life memberships; but still they have always been short of funds. Now, I do think that the farmers are open to this criticism, that they have not been quite willing to pay, as other men are, for what they get in that direction. You find in the cities Boards of Trade, where merchants get together in an organization, lawyers get together, and they do not undertake to do their business upon a membership fee of fifty cents or a dollar a year; more than likely it is ten, fifteen or twenty-five dollars. Now I want to say to the New Hampshire Dairymen's Association, in starting this organization, don't try to get a great deal out of it without putting something in. The more you put in the more you can draw out, and the more hearty support you give to the organization the more useful it will be. (Applause.)

What is Accomplished by Organization and Interchanging Views.

Mr. TINKHAM, Secretary of the Vermont Dairymen's Association, being called on, responded as follows.

Mr. Chairman and Gentlemen.—We run our Association upon an understanding that each one attends to his own business. You have seen the President of our Association. It is his business to do the ornamental and the oratorical part and I do the writing. I think it is trespassing on his jurisdiction a little, but being in New Hampshire I do not know but I may do it, and so perhaps I may say a word in regard to the subject.

First, I will give briefly the experience of our Association, our successes, our failures, the difficulties we have labored under, trusting that it may be a guide to you, as we had nothing to guide us. First as to the financial part, to which reference has been made. The Association when it was started fixed the life membership at twenty-five dollars, I think. A good many gentlemen joined the Association as life members, but not enough, so that with the expenses of the meetings that were held, the railroad fares and hotel expenses of the speakers who came from a distance, the drain upon our funds was quite heavy, so that the receipts from life memberships were used for running expenses. The life memberships were much more in number than the annual memberships were, and instead of the receipts from life memberships being laid aside for a fund, the interest of which only should be expended, the money received from that source was used up; consequently every year left us dependent, as you might say, upon the generosity of the people. I am happy to say we never have applied to them in vain. We are out of debt, we have a little money in the treasury, but still not as much as the Association should have to make it independent and enable it to do its work. The principal burden comes from the expense of getting up meetings and the expenses of the speakers who come from abroad. The officers have no pay, and ordinarily the officers pay their expenses to and from the place of meeting, and their expenses while in attendance at the meetings.

What Has Been Done.

Now, what have we accomplished in the fourteen years that we have been at work? We believe that we have made some progress in making good butter. The test of good butter is not always the price it will bring. You often hear people asking, 'why don't my butter bring 50 or 60 cents per pound? I believe it is just as good as anothers.' You do not hear dealers in clothing asking, 'Why don't I sell more 60 dollar suits of clothes? I believe they are just as good and serviceable suits,—perhaps not quite so fancy,—as other clothes that are sold for that price, but I have to sell them for half the money.' Last winter we had a butter exhibition and I went to Boston and got one of the marketmen there who is said to know good butter, to come up and give us his services as a butter expert, which he did gratuitously. The samples were arranged around the hall, each pat of butter without any mark except a number on it. Each pat was accompanied by a written statement of how it was made, the feed of the cows, the breed, etc., which statements were put into the Secretary's possession and the expert merely saw so many pats of butter, each with a number. We had eighty of these exhibits. The expert asked me on what basis he should make his classification. I told him to put as No. 1, that butter which he would put on his shelf and sell as No. 1—not at fancy prices, but as good butter was then selling. Western creamery butter was then selling at from 38 to 40 cents a pound. Said I, 'Make that No. 1. If you find anything that would bring a higher price in the market, that would be called 'fancy,' classify that as 'fancy;' if you find any poorer than No. 1, put that No. 2.' Of those eighty samples, over 75 per cent. were ranked as No. 1. A few over sixty of the samples ranked as No. 1 butter. The expert said when he started 'I suppose I shall make a good many mad,' but as he went from one pat to another, he said, 'This opens remarkably well,' and after he had tested all the samples, he said that he had never seen so good a lot of buttter in his life. One of our pupils, who started with this advantage, that having been in another line of business and not brought up to dairying, he had not come to butter making with the idea that he knew all about it, but took hold to learn—that pupil came before us and just scooped the whole lot.

Making Butter.

Now about making butter. In the first place if I was going to make butter, I would have a cow, and unless I was a very rich man, I would have a *good* cow. Only a very rich man can afford to keep a poor cow. After I had got the cow, I would keep her well. I believe that on that very point of keeping rests the law and the *profits* of good butter making more than upon any other one thing, excepting, perhaps, cleanliness; and that is the only one exceptional rule in the whole line of care and cost—setting milk, churning, etc.—that the dairyman cannot brook with impunity, we have got so far in our State as to have passed a law to prevent adulteration and swindling in the food we give to our lands—that is, chemical fertilizers. I am hoping that by and by we shall get far enough along so that we shall pay a little attention to the food of our cows, and possibly, in the far distant future, we may take some care to prevent being swindled and poisoned by our own food in regard to which we have had so great carelessness in the past. I am willing to allow every man to make just what he has a mind to and sell it, (under certain restrictions, of course, in regard to poisons), but let him put on his goods a mark that will show just what they are. If a man wants to take tallow or lard and sell it, I am perfectly willing, and I am willing to buy it when I want it, but I don't want him to put it on the market and sell it to me for butter when it is not butter. (Applause.) That is a work that our Dairymen's Association has got to accomplish, and I give it as a little lesson for you—that you get a law passed that every article that is sold as butter that is not the pure product of the cow, shall have marked in legible letters on each package, 'Adulterated' or 'Sophisticated.' They say that oleomargarine is a great deal better than poor butter; grant it. I do not care anything about that. It may be better than the best butter. That is not the point I am driving at, but *honest trade*. Sell a thing for what it is, and let every man know it.

I do not lay great stress in butter making upon our particular method of milk setting. I think an intelligent butter maker may make good butter from any one of the different methods; I do not know that very poor butter is made from any of them. I trust we shall have a law passed in our State, and I hope you will help get one passed in this State, to relieve us from spurious butter. Let those eat it who want it. That is one of the things we want to do.

I hope you will shun the rock which has embarrassed us, and put yourself on a sound financial basis. It is a very embarrassing thing for the Secretary to be obliged to get up and say, 'I have no money.' I am happy to say that the money has come when needed, but it is unpleasant to have to ask for it. I hope that the Secretary of your Dairymen's Association will not be embarrassed in that way.

Feeding "Ensilage."

MR. WETHERELL.—I heard of Mr Tinkham in one of the best stalls in Faneuil Hall Market. He was inquiring in regard to the effect of the food of cows upon butter. I would like to have him state to the meeting what information he got from that source with regard to ensilage as a food for butter making cows.

MR. TINKHAM.—A man who is ignorant has a great deal to learn. I appreciated my situation in that respect, and I went to the men who handle butter. I think that the ordinary farmer who makes and sells butter is by that very fact incapacitated from being a first class judge of butter. He is familiar with his own make; he knows or thinks that is good, but his range of taste is not broad enough. The samples that come under his notice are not enough to make him a good judge of butter. So I went to those market men and asked them, 'Have you handled any ensilage butter?' I think I found three instances. One said that he had a large dairy that had been No. 1 on his shelves. By and by there came in the winter a poor lot; it had a different flavor, and he could not sell it. He wrote to the man telling him there was some trouble, and supposed perhaps he had changed his dairyman, or something of that kind. It came the same way again, and finally he took it off his list, telling the man probably somebody else would give more for it. He said he found out from one of the man's neighbors that he had been feeding ensilage. I went to several that had not had any experience or did not know that they had. I then went to another who said that he had the same experience, and a third party told me that he had at one time quite an amount of it on hand, and while he could sell good butter in tubs for 35 cents a pound, he could not get over 25 for that where ensilage had been feed.

I would say that of the eighty samples at our exhibition last year, eleven of the workers stated in their account of the methods of manufacture that they fed ensilage to their cows. I found after getting home and tabulating the statements that eight of those eleven samples were in the No. 2 list, and the remark of the expert was like this—'Some foreign flavor; not acquainted with it; suggestive of oysters.' That was one, and the same flavor was found in other samples; but, mostly, the objection was on account of

the flavor. Now, there is a great deal of philosophy in that statement of the Irishman who said, if an apple pudding was so good made with a little quince, how good an apple pudding would be made all of quince! It is just so with regard to ensilage. I have no doubt that a moderate feed of ensilage could be given without perceptibly affecting the quality of the butter to an ordinary judge; but the dairyman who thinks he can feed sixty pounds of ensilage a day, with a little meal, and make first class butter, in my opinion will find himself mistaken when he puts it on the market.

Other Kinds of Feed.

QUESTION.—What has been your experience with shorts?

MR. TINKHAM.—Shorts we give more for the health of the animal and the formation of bone and muscle. We think we will get a larger amount of milk, but do we not expect to make any more butter. For right down good butter, I don't know of anything better than good clover hay and good corn meal. (Applause.) Some little time since, I went down to the Darlingtons, near Philadelphia, to try to pick up a wrinkle, and I found that their hay fodder, as you might term it, was almost exclusively clover. Indeed, Mr. Darlington told me that he had used just as nice timothy hay for bedding (because he could not get straw) as ever was made, because he would not feed it to his cows. He also told me that he had bought a carload of corn meal that was a little sour, and the man of whom he bought it thought he was very hard because he would not keep it at a reduced price. He said, 'I couldn't afford to. Not only would the quantity of milk have fallen off, but the quality would have deteriorated in as great proportion.' Give good clover hay, and good bright, sweet corn meal, and enough of it, and I will risk the quality of the butter, so far as the quality of the food is concerned.

QUESTION.—Were any of the samples made by the use of cotton seed meal?

MR. TINKHAM.—There were several in the second class where cotton seed meal was used, and also a few in the first; but it is with cotton seed meal just as it is with ensilage. You can put a little cotton seed in with the other food. A friend of mine mixes a hundred pounds of cotton seed I think it is with eight hundred pounds of meal, or about that proportion. We do not feed it to young calves; at least, no man feeds it but once to young calves. One of my neighbors lost eight young calves and another nine by feeding them cotton seed meal. Another gentleman found in it a very productive source of abortion in cows. But unfortunately for the inference, another friend of mine says that he has fed cotton seed meal in considerable quantity for years and has had no trouble. And, by the way, there is a point for the New Hampshire Dairymen's Association to look after—the cause of that great and growing evil, abortion in cows. We have had several papers read at our Association upon that subject; one excellent one last winter, but, unfortunately, while he quoted facts in his case which tended to show the cause, other facts came up all around to disprove his conclusion, and to show that it can be attributed to other causes. As far as I am concerned, I must confess that I am much in the dark concerning the specific cause of abortion as I ever was in my life.

MR. WETHERELL.—So is everybody else.

MR. TINKHAM.—I guess that is so.

The Best Breed of Cows.

QUESTION.—Is there any particular breed of cows you would recommend?

MR. TINKHAM.—Yes, sir, I would recommend the breed of cows best fitted for the object you want to accomplish. If a man is going to sell beef, he should take the Herefords. If he wants to raise milk to sell in the city, he should take either the Ayrshires or the Dutch. If he is going to make butter, the best butter, he should take the Jerseys. I am a Jersey man right through. I don't know but the Guernseys are going to equal them. If a man has wool wrinkled right down his sides, I would advise him to keep sheep. No man ever succeeded in a business that he did not care something for. So there is no one breed of cattle better than any other, any more than there is one trade better than any other. Each has its place. The Jerseys for butter; I think, the Ayrshires for a hilly country for milk; the Dutch, which are larger and heavier, for a more level country; and the Herefords or Shorthorns for beef.

"GARGET."

QUESTION.—What is the effect of corn meal upon cows at calving time, in regard to garget?

MR. TINKHAM.—Anything whatever that tends to produce a large flow of milk, that unduly excites the milk glands, will tend to produce garget. Another thing: If you have a cow that is a large milker, that has been fed heavily through the winter, and dried off (or if she has not), you have got to look out or you will lose her with milk fever. All those cow that have given the big tests, or most of them, at least, have gone the way of all cow flesh, by milk fever. I claim that corn meal will tend to produce garget because it is a heavy, heating food, and when you overload the system in that way, it is not carried off through the natural ducts, and expands them. I think that produces it. Oil meal is an excellent thing to give at that time to loosen the bowels, and is not as likely to produce garget or milk fever as corn meal; but it is not as good for butter, as it is likely to leave a flavor. Corn meal, oats, shorts and oil meal is an excellent mixture. We keep the bowels open, and do not fear milk fever as much as we did. When the first symptoms appear, bleed the animal and do not let it run all around the yard, because then you do not know how much blood you have taken. Bleed two-thirds or three-quarters of a pailful, and give the cow a quart of alcohol, reduced one half, in two doses. The theory is this: the clotting blood forms in the brain; it is parturient apoplexy. You want to reduce that part and take away that blood. Bleeding draws it from the brain, alcohol stimulates the circulation, and the clot is drawn away. You will be astonished to see how quickly an animal will recover after such a bleeding. I was called into a case of the kind a few days ago, and, after bleeding the cow, I gave her two quarts of alcohol before I got through, and before night she was standing on her feet, chewing her cud.

MR. WETHERELL.—Why would you use any cotton seed meal or any ensilage, if it affects the butter?

MR. TINKHAM.—I wouldn't, because I think I can get along just as well without it. Just as different breeds of cattle have their places, so different feeds have their place. I have not a doubt but what ensilage may be used profitably to take the place of roots for store cattle. I think it can be raised more cheaply. I don't think it hurts cattle, as far as I have seen.

The Use of "Shorts."

MR. WETHERELL.—I will give a fact in regard to the use of shorts. An acquaintance of mine in Deerfield, Mr. Haskell, had Jersey cows, and made butter which he sent to the Boston market, and it had a high reputation. He fed his cows on good hay, some corn fodder, and corn meal. One of his neighbors told him he could just as well feed shorts and save a good deal of money in the course of the season. He told me that after making the change in his feed the butter dealer to whom he sent his butter wrote back and asked him, "What is the matter with that last butter you sent me? It is not so good as your butter usually is." He made no reply, stopped the shorts, went back to corn meal, and everything went along satisfactory. But to satisfy himself more thoroughly, he tried it again. The result was, that instead of writing him again, the commission merchant made a considerable reduction in the amount he sent him for the butter. Mr. Haskell said that was the end of his experience in feeding shorts. This is not a solitary fact. There are others in the same line, with the same result.

My friend Hills wants to know if feeding fine feed would produce the same result. There is a mystery about that. When they get out of fine feed, many dealers will grind shorts and middlings, and sell it for fine feed. Give me good wheat bran and I am satisfied when I buy it for bran, but fine feed is a doubtful commodity at best.

MR. BAILEY, of Bradford, Mass.—I think the idea that some people have that the name of the maker is what gives butter a high reputation is a mistaken one. I believe that there are certain men engaged in the butter and cheese business in New York and Boston who can tell just what they are buying, and they do not guess at it. An instance in point I recollect. Two years ago I spent some six or eight weeks in Pennsylvania, roaming over my native hills. I found a man who was doing quite a heavy business there shipping butter to New York. He said to me one day when I was in the store, "Mrs. So-and-So has got five tubs of butter; I have been urging her to let me ship it, for she is going to lose on it." She brought the butter down while I was there. I think she made two tubs a week. He shipped that butter to New York, and it was marked the different times it was made. I said, "How can the man in New York tell the difference in those tubs of butter?" He said, "We will see. Before you get back, I shall get her bill of sale." In about ten days the returns came back, and for the oldest tub, which was not three weeks old, she got 38 cents a pound; the next brought 20 cents, and the last 35 cents.

I got up more particularly to say this: that I defy a man to feed shorts to a cow and not have it show in the butter. A doctor will feel your pulse when you are sick and will know something is the matter with you. You feed your cow with shorts and your butter will tell the story just as readily as your pulse will tell when you are sick. So it is with onions or anything else of the kind.

Proper Testing of Butter Cows.

Great stress is laid upon the amount of butter a cow will make in a trial of seven days or a month. The milking, weighing of the milk, the salting and working of the butter are under supervision, as if the quantity and quality of the butter decided the profitableness of the cow, and the price she ought to bring in the market. We have registered cows that produce fourteen pounds of butter in a week, and a few go up into the twenties. A very few have produced twenty-five pounds in a week. It is thought to be within the range of probability that a cow will yet make nine hundred pounds of butter in a year. These large figures have set the old heads upon the farm to serious thinking, which is a very good thing, and started some doubts, which is better. They begin to question, whether fourteen pounds of butter in a week on selected rations, in addition to grass, pays any better than seven or eight pounds on grass alone. They want a cow that will make the most butter upon a given value of food. It is the exception rather than the rule in the record of these large yields of butter, that we have any fair statement of the rations or the result of these large yields upon the condition of the cow. They wish to know what a pound of the tested butter yield costs. There is a demand for a trial of these cows upon grass alone. That would not fully decide the comparative merits of cows. One animal might weigh a thousand pounds, and another but five hundred, and of course it would take a much larger portion of the rations to keep up the condition of the former than of the latter. One cow might have an accumulation of fat, while the other was in poor condition. There might be as much difference in the condition of the pastures as in the flesh of the cows, or if the grass was equally flush, pasture might be worth twenty-five cents a week in a rural district, and a dollar a week near a city.

The cry for a trial "on grass alone," will not give us the light we want. We desire to know just what it costs Mr. Bonanza to get a hundred pounds of butter out of his four thousand dollar cow, "Magnificat." There is the interest on the investment during the butter trial—the cost of pasturage in his vicinity, the quality of the additional rations, and their value, and finally the cost of manufacture and marketing the butter. "Magnificat" is a splendid looking animal, and Mr. Bonanza may find pleasure and profit, from an æsthetic point of view, in owning her. It pays to buy pictures. But if it costs fifty-one cents to get a pound of butter, which will sell for only fifty cents, the old heads are not able to see where the profit comes in. If there is a profit it can be shown by the record, and it ought to be. No better card can be made for Mr. Bonanza's registered herd, than to show that he can get more butter out of a hundred dollars' worth of rations, than it is possible to get out of any other breed or their grades on the same value of fodder.—*American Agriculturist.*

Test of Ida of St. Lambert 24990.

The following is the official test of the Jersey cow Ida of St. Lambert, referred to in our last, and whose yield is unparalleled:

MR. JOHN I. HOLLY, *President A. J. C. C.*

DEAR SIR:

Responding to your request, I started on the 10th inst. for Oaklands to supervise the testing of the Jersey cow Ida of St. Lambert 24990. By the accompanying report you will see that she made the unprecedented amount of 30 lbs. 2¼ oz. of salted butter in seven days. Neither the milk, cream nor butter were out of my sight for one moment from the beginning to the end of the test, unless under lock and sealed with my seal; and during the test the feeding was left entirely to the discretion of the manager of the Oaklands herd. The cow Ida is a good feeder, and whatever the manager thought tempting he fed her—mangolds, cabbage, carrots, corn-fodder, and for pasture she had an almost burnt-up, second-growth clover. Besides the foregoing she was fed as high as forty-five imperial quarts of mixed grains per day, and from that down to twenty-six quarts per day, the amount being increased or diminished at the discretion of the manager. The mixed grains were in the following proportions: Crushed oats, four quarts; ground oil-cake, one quart; wheat-bran, two quarts, and pea-meal, two quarts. She was fed as often during the day as the manager thought prudent, and the various ingredients were also varied as he thought fit.

In this test the whole milk was first cooled and then left to ripen, meanwhile being daily stirred; when thought ripe enough it was put in a barrel churn. The first three and a half day's milk was put in at a temperature of 62 deg., and the churn started at 7.05 p. m.; at 8.37 p. m. the butter separated and a part of the buttermilk was drawn off, and the churn again started slowly; by 9.23 p. m. the butter had gathered in a great mass and the buttermilk was drawn off; cold

water was then poured on the mass, and the churn given quarter-revolutions backward and forward. In this way the lump was washed in three waters, the lump breaking into two pieces before the third washing. The butter was then taken out and weighed, and salted one ounce to the pound, and then weighed as salted butter. The entire time, from the putting of the milk into the churn until the mass was weighed as unsalted butter, was two hours and thirty minutes, and from the time it was weighed as unsalted butter until reweighed as salted butter was less than five minutes. The second churning was conducted in the same manner, excepting that the milk was reduced from 68 to 62 deg. by the addition of ice-water. This churning separated in one hour and seven minutes, and it gathered in five or six lumps in thirteen minutes more. The buttermilk was then drawn off, and the process of washing repeated with two waters, then weighed, salted and reweighed.

The rules for official testing of cows as proposed to the Club for adoption were strictly adhered to in this test, and every precaution taken in the way of locks, tapes, seals, etc. The milk of the 12th, 13th, 14th and morning of the 15th was churned on the 18th at 7 p. m., and made 14 lbs, salted. The milk of the evening of the 15th and of the 16th, 17th and 18th was churned on the 21st at 10 a. m., and made 16 lbs. 2¼ oz. salted; or a grand total of 30 lbs. 2¼ oz. for the week.

Official test of Ida of St. Lambert 24090, solid light cream-fawn, full black points, upturned horns, black, mottled with white; sire Stoke Pogis 3d 2338, dam Kathleen of St. Lambert 5123. Last calf dropped in June, 1884. Not in calf when tested:

Time of Milking.	*Milk.*	*Temp.*
Sept. 12th, 6.30 a. m.....	20 lbs. 0 oz.	48 deg.
" 6.30 p. m.....	22 " 8 "	60 "
Sept. 13th, 6.30 a. m.....	20 " 8 "	44 "
" 6.30 p. m.....	23 " 8 "	64 "
Sept. 14th, 6.30 a. m.....	21 " 8 "	42 "
" 6.30 p. m.....	21 " 8 "	60 "
Sept. 15th, 6.30 a. m	20 " 0 "	48 "
" 6.30 p. m.....	20 " 8 "	70 "
Sept. 16th, 6.30 a. m.....	22 " 0 "	72 "
" 6.30 p. m.....	22 " 8 "	70 "
Sept. 17th, 6.30 a. m.....	21 " 8 "	58 "
" 6.30 p. m.....	19 " 0 "	62 "
Sept. 18th, 6.30 a. m.....	16 " 8 "	55 "
" 6.30 p. m.....	20 " 0 "	58 "
Total.....	200 lbs. 8 oz.	

Total unsalted butter, 28 lbs. 11 oz.; salted butter, 30 lbs. 2¼ oz. W. D. WATROUS.

Perth Amboy, N. J., Sept. 13, 1884.

Poultry Yard.

Poultry Management.

The fall is the time in which to make selections of the pullets that are intended as winter layers. It must be considered that fowls are adapted for particular seasons according to the breeds. The Leghorns commence laying very early, but unless given warm quarters and the best of feed rarely make good winter layers. In fact, all fowls should be made comfortable during the winter season, but there are breeds endowed with heavier and closer feathering than others, which are thereby enabled to retain the animal heat longer. An examination of a Leghorn hen will demonstrate that the body under the wings is sometimes nearly naked, being covered only by the wings, while the body of a Brahma is covered not only by the wings but also by a heavy fluff feathering, soft and downy, which is serviceable during the long winter season. There may be exceptions, but such is usually the case. Leg feathering, however, is of no advantage, as the feathers keep the legs continually damp, where the fowls are confined on heavy clay soil. The comb is another obstacle to the Leghorns, Black Spanish and Plymouth Rocks, such fowls having tall single combs, which are easily frosted when exposed to severe cold winds or when they become wet, as the danger of freezing is thereby increased. The combs may be cut off close to the head, as also the wattles, if necessary, which operation is not necessarily dangerous, but sometimes beneficial when the combs are very heavy.

During the damp weather at this time of the year, the roup sometimes makes its appearance, even when the fowls have received the best care that can be bestowed. There are many forms of roup, and it becomes contagious in flocks when allowed its way unchecked; but the mild form is usually a cold, the symptoms being a stoppage of the nostrils, which gives the well known hoarse breathing, with the mouth opened. It sometimes appears also as a disease of the throat, and other times the eyes and head are affected, in all cases attended by general debility, loss of appetite and depressed spirits. The most essential object should be to separate the sick fowls from the others and remove them to a dry, warm location, feeding on soft, nutritious food. A little copperas solution in the drinking water is about all the medicine necessary, as doctoring often does more harm than good. The best remedy is warmth.

In selecting the winter layers it is best to reserve those that were hatched early. If the small breeds are kept, the pullets hatched as late as the beginning of June sometimes begin to lay about Christmas, but those a month older will give more satisfactory results. The large breeds—Brahmas, Cochins, and Plymouth Rocks—require more time during which to grow and mature, and pullets of such breeds, when intended as winter layers, should be hatched as early as possible, March being the month preferred, but later hatched pullets of the large breeds often begin to lay early, and produce quite a number of eggs before spring begins. Langshan pullets begin to lay nearly as early as Leghorns, which is a good quality for a breed of large fowls, and the crosses of the Langshan with mixed or common fowls also produce good early layers.

In crossing fowls one of the best that can be made is to mate a Houdan cock with Brahma hens, the result being very fine, vigorous, large fowls. The Brown Leghorn cock, when mated with Partridge Cochin hens, also produces excellent fowls, which are not only profitable but beautiful in plumage.

Feeding requires judgment, for fowls, in order to lay and give good results, must be given a variety, green food being allowed as a regular addition to the supply of grain. Meat in some shape is also essential, and good quarters and pure water are very important. As eggs bring better prices now and during the winter than at any other time, the breeder will be well rewarded for the care he may bestow if the fowls are properly attended to and their wants amply supplied.—*Farm, Field and Fireside.*

Late Hatched Chickens.

It is becoming a subject of discussion as to the advisability of hatching chicks late in the fall, in order to get early "spring" chickens. That it will pay is something to be demonstrated, but we believe the experiment would prove a success. Chickens that have been hatched in October grow but very little before spring. They are dwarfed in size, but have a compact appearance. They look leggy enough for a while, but after a time they seem to cease growing entirely, as if growth was dormant during the winter period. They remain in this semi-dormant condition as long as the cold weather lasts. As soon as spring fairly opens they start off very rapidly, not by growing in height, but in thickening and rounding. They might be truthfully called spring chickens, for though hatched in the fall they grow in the spring.

We well know that early chickens bring the best prices. That there is more profit in a batch of chickens that are in market before it has been stocked, is a fact not necessary to mention. And why may we not hatch them in the fall as well as in February or March? The chickens will need care if hatched in the fall, and may be a little expensive and troublesome, but when we compare these disadvantages with the loss arising from hatching in the spring, when the thermometer is down to zero, among the very young ones, we doubt if there is anything in favor of spring hatching. When hatched in the fall the loss from the young chicks is not so great, and they feather in time for the cold, provided they are not Cochins or Brahmas. They can then be sold at any time, and will bring good prices in spite of us.

It will not do to hatch chicks late in the fall, unless we go about it systematically. To use the Brahma is to run into winter with a naked chicken, and the Leghorn will look too much like a diminutive adult. The Game is good, because it is slow of growth, but the Game is not a healthy chick, say what we will. As an Englishman remarked, "they are born with the roup in them," and cannot go through a severe winter. We believe the most profitable method of breeding for fall chicks that are to be kept over for this purpose, is to cross Plymouth Rock cocks on the common barn-yard hen, "her that is of mixed blood," and we thus cross two hardy kinds, and the cock will add size. We should endeavor to obtain two points in fall hatching: First, slow growth, and second, hardiness. We should use good judgment in crossing, feed well, and give warm quarters. Then watch your market, and bring them in at the proper time.—*Farm, Field and Fireside.*

Fattening Poultry.

Two weeks is sufficient time in which to fatten fowls for the market. But this demands conformity to certain conditions. The fowls should not have full liberty. At this time it is not economy to give them opportunity for exercise. It is desirable that all the food taken should be used to make fat, not for strength of muscle. From eight to twelve may be shut in a small room together, where there will be nothing to disturb them. If the room should be partially darkened, all the better. Let the birds have complete repose; let all their powers work toward digestion. The quickly fatted fowl is tenderest and most juicy. If no suitable room is available, a large coop may be constructed, with feeding troughs outside.

It is important that the feed should be clean, sweet and abundant. For this reason it should not be placed so that they will run over it or defile it. The object is to have the birds cram themselves, sit down quietly and digest, then cram again, and so on to the end of the chapter. Now, if they are confined in a coop having a tight bottom, the place will soon become intolerably filthy. There should be openings or wide spaces in the floor, that it may be cleaned often, then covered with saw dust or some other suitable litter. Kept in this condition, the fowls will take four square meals in a day.

If there should be a quarrelsome one in the lot, it should be separated from the rest. Such a fowl will prevent the others from eating to the full and disturb the quiet which is necessary to the rapid digestion of the food. Fighting tends to leanness. Even scolding will use up food and prevent an oily, rotund condition.

There is no better food for fattening purposes the world over than sweet, finely ground corn meal wet up with skimmed milk. The mixture need not be so dry as when meal is mixed with water. There is no danger that fowls will get water-logged on milk. Some poulterers feed buckwheat meal, thinking that it renders the poultry better in flavor. There is no objection to mixing one-third buckwheat meal with the corn meal, as a change. The mixture should be seasoned with a spoonful of salt each day. Fowls that have dough for their rations will not require much water, yet fresh, pure water should be supplied, that they may drink when they thirst.—*Am. Poultry Yard.*

Will it Pay the Farmer?

The fact is patent to all close observers of the opinions prevalent among our farmers, even the more intelligent portion of them, that to raise fowls in any great quantity upon the farm will be at a cost much greater than the proceeds that can be realized from them in the autumn and winter, and that the trouble to raise them is much greater than is generally supposed. These objections are honestly believed to be valid, and warranted by the facts in the case, by a very large number of farmers in every community, and this being the case, it is not to be wondered at that few annually attempt for the first time to do any considerable work in the poultry-rearing line. And, as all know, farmers are a hard working, saving class of men, and they do not go into anything that they are not pretty sure will pay them. But cannot farmers raise a very good-sized crop of poultry, and that at a very handsome profit, too? Let us see.

Not a great while ago we raised a half dozen Plymouth Rock chicks until they were six months old. They then weighed forty-two pounds. They sold at eight cents per pound, live, or $3.36. The cost of food, cost of eggs, and estimated value of the hen's time was a little less than $1, leaving a profit on six chicks of six months of age of over $2. One hundred and fifty chicks can be reared on any ordinary farm at about the same profit, or perhaps more, if the time of marketing is made later, thereby giving the chicks more time to grow in, in which case less food will suffice. This would give about $50 profit. A farm of one hundred acres, or more, is plenty of range for 80 or 100 turkeys. These, if fair specimens, will give a profit of about $50 or $60 more. These two items, with a small flock of ducks and geese, will swell the total profit to about $125. This, remember, is all profit after counting everything but the care of hatching, feeding and marketing, which would be worth about $20, on a very liberal estimate.

We know hundreds of farmers in this and every other State do not clear a red cent on many a crop of grain or hay. They get paid for their labor and the interest on the money invested, and that is all. Any of these might raise the above named quantity of fowls, and thereby add a one paying crop to their regular list of farm crops.

The fowls above enumerated can be reared with very little trouble after the proper coops, etc., are once provided. They can be fed and looked after a little by one of the boys, or better still, if there is a superabundance of stout girls (or if there is a sickly girl in the family, might not the pleasing out-door work help her?) in the family, let one of them take charge of the fowls, giving her all the grain, etc., for food needed, and whatever assistance that is needed in the heavier part of the work. We know several women and girls who are very fond of this sort of work, and who make it pay well.

No surer crop can be grown on the farm than poultry. We have kept fowls in every conceivable place and under the most adverse circumstances, and have never yet had a flock of fowls fail to pay well for their keeping. This, too, when not on a farm, where of necessity, they had to be fed every morsel that they ate. On a farm much wasted grain and considerable insect and vegetable food can be found by the fowls themselves, and the cost of rearing is consequently much less.—*Cor. Poultry Yard.*

THE Guinea fowl is not so large a bird as it appears, its loose full plumage making it seem larger than it is. In the colder latitude of Europe this bird is very rare, and is seldom seen in Sweden, Norway or Northern Russia.

The American Farmer

"O FORTUNATOS NIMIUM SUA SI BONA NORINT 'AGRICOLAS." . . . . . *Virg.*

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☞ At the office of THE AMERICAN FARMER are located the offices of the following organizations, of each of which its proprietor, Wm. B. Sands, is secretary:

Maryland Horticultural Society.
Maryland Dairymen's Association.
Maryland State Grange, P. of H.
Agricultural Society of Baltimore Co.

BALTIMORE, OCT. 15, 1884.

The County Fairs.

All of these, so far held in Maryland, appear to have been successful and well attended. The dry weather made some drawbacks, but in Cecil, Harford and Frederick, as well as in Baltimore county, the exhibits appear to have been up to the average and the number of visitors generally very large.

Fine Foreign Grapes.

We are indebted to Mr. Alex. Fraser, gardener to Wm. T. Walters, Esq., for some magnificent bunches of the exotic grapes exhibited by him at the late Horticultural Show. For perfect condition, large size, and handsome color, they deserve the highest praise, and maintain the reputation which their grower has long enjoyed of being the most skillful and successful in this vicinity.

The Baltimore County Fair.

As noted in our last, the Fair at Timonium was quite up to the average in the extent and variety of the exhibits, whilst the attendance was large, although rain on two days made the aggregate fall below that of last year.

There were some very handsome Jerseys on the grounds, included in the herds of Messrs. Robert Moore, John Ridgely, Edward Austen and Fredk. von Kapff, besides others exhibited by Messrs W. S. Taylor and A. H. Stump. Herds of Short-horns were shown by the McDonough Institute and the Shepherd Asylum. Mr. Whitridge's beautiful polled Angus cattle, sixteen in number, attracted much attention. Mr. Merryman had a good collection of Herefords, Mr. G. A. Mays, a herd of Ayrshires. There were few or no grades.

In the Jersey class Mr. von Kapff took the regular and the special herd prizes; first on aged bulls for Normanby 2d, first for aged cows for Fillpail Carlo, and first for heifer between 2 and 3 years for Polonia Brisbane.

Mr. Edw. Austen took 2d on aged bulls for Hercules of Chatsworth, on aged cows for Chestnut Farm Primrose, and on heifers between 2 and 3 years for Handy's Beauty. For bulls between 2 and 3 years, Mr. Robt. Moore's Ion got first and Mr. W. P. Woolston's Bro's Choice, second; for bulls between 1 and 2 years, Mr. Ridgely's Essie's Rex received first and Mr. C. S. Taylor's Lord Baltimore, second. Heifers between 1 and 2 years, 1st to Mr. Ridgely's Lorona and 2d to Mr. Moore's Cleome of Glenmore.

In the sweepstakes for cattle of beef breeds, the prize for the best herd, for the best cow or heifer, for the best bull and five of his get, went to Mr. Whitridge's polled Angus cattle, and that for best bull of any breed to Mr. Merryman's Prince de Coti.

Most of the Short-horns premiums went to the McDonough Institute, and of the other herds there were single exhibitors only.

In the implement and machinery department, the prize for the largest collection went to Messrs. Griffith and Turner; second to Joshua Thomas & Bro. Gold medals were awarded to M. B. Shurtz & Co., for their geared Eclipse Wind Mill; to S. D. Warfield for his Green Corn Cutter, and to Jno. D. Linton for Steam Plowing with Landis' Steam Gang Plow.

The Grange.

In Memoriam.

Whereas, God in His wise and unerring Providence has lately removed from our midst, Brother John F. Phair, one of our most faithful members; be it

Resolved, That a vacancy has been created in Liberty Grove Grange which we as its members will find difficult to fill. A true and honest patron has departed, one who was tried and proven to be conscientious in the discharge of all his duties in whatever position he has been placed; be it further

Resolved, That not only we as members of the Grange suffered a great loss, but the community in general have been bereaved of one whose many virtues will no doubt be more fully appreciated when time has more fully made the separation to be felt; be it further

Resolved, The Church has also been deprived of the influence of a sincere and useful Christian; be it further

Resolved, That we hereby extend to the bereaved family our heartfelt sympathy in this their sorrow.

FLORENCE LOANE,
J. M. BRIAN,
E. H. BURTON,
Committee.

An Address Before Liberty Grove Grange, No. 54, by Sister M. T. Duvall.

Worthy Master, Brothers and Sisters:

Although I have not been delegated to speak on the question to-day, yet as it is of vital importance to all of us, particularly parents, we could, any of us, speak on it with profit if we would.

The question is, "How can we best keep our children in school?" and it ought to be of great interest as connected with the welfare of our children, which is one of the talents that God has given us parents to improve.

The school was not mentioned, but it was the day school was intended; but let me digress and bring other schools into the discussion—the home school, the Sunday school, the Grange school, and the school of life, for I think with Brother Miller, that as long as we live, we are in a school, and we live in vain if we do not live to improve.

The home school is the first and most important school, for the earliest impressions are the most lasting, and it commences with the earliest dawn of intellect in the babe. How many of us in watching the prattling child can see reflected what it has learned from us, whether good or bad, and how careful parents ought to be in setting good examples, for the child thinks that if papa or mamma does so it is all right, and how hard to break them of wrong habits.

Well, how can we keep our children in the home school? Not by harshness and ill-treatment, but by treating them with love and kindness, providing not only for their bodies, but food for their minds—good books and papers—explaining to them when asked questions, and teaching them by precept and example, and learning them to love their homes, and remembering their birth-days with presents, so when they leave their homes for other scenes, or make homes for themselves, they will have pleasant memories of their childhood days, and will often turn their thoughts lovingly towards the old home, and return to it with pleasure, and say with the poet:

"How dear to my heart are the scenes of my childhood."

Next, the day school; there the parents have a great influence (as Bro. Miller said), for most children love to go to school at first, but if they are kept at home or allowed to stay at home for every trivial cause, they soon get careless and do not care so much for it, for they think that papa and mamma does not care much for their going. How can we keep our children in the day school? By encouraging the teachers to make school pleasant, and not speak discouragingly of the teachers, whatever their faults may be, as it is so often reflected in the conduct of the child, but get the child to love the teacher and they will love to go to school, and when we send the child to school, try to send as constantly as possible, for it is as discouraging to the child as to the teacher, and the studies do not progress as they should, and the parents ought not be satisfied by merely sending their children to school; they ought to encourage them by showing an interest in their studies and explain to them, and get their children to practice what they are learning, and not say they do not have time, for my experience has been, with my children, that time spent helping them was profitably spent, for if I left my work while helping them, my work went along better afterwards. The conscienceness of doing them good, helped me and helped them to love their studies, for if there is no love, the studies do not progress so well.

The Sunday school is an educator to the child in what is for his lasting good, for it is commanded to "Seek ye first the Kingdom of God and his rightousness and all things will be added unto you," and what a child learns in Sunday school they will always remember, I know, from experience.

How can we keep our children in the Sunday school? By the same law of love and not by discouragements. Help them to learn their lesson and explain it to them, read their library books and papers and get them to love their teacher and Sunday school.

The Grange school is next, for it is a school, as I have heard some of you say that the Grange was educating you, and I know that it is educating me, for if any one had told me over a year ago that I could, with my other duties, write an essay, and then read it, I would have said I did not have time, but it is not as hard a task as some of the sisters think, for it is only our experience we need write. I think of the subject while about my household duties, and when I am resting, I write it down. Try it, sisters, and see.

How can we keep our brothers and sisters in the Grange school? By trying how pleasant and profitable we can make the Grange, each and every one contribute their mite and encourage each other in the school of life, and when we come to the brink and are called to lay down our implements on earth, may we enter the school of "Divine Love" and spend an eternity with our loving Father, is the wish and prayer of your sister.

Horticulture.

Annual Exhibition of the Maryland Horticultural Society.

The Society never had a more attractive show than it made in the Natatorium building in this city from October 7th to 10th. There were fewer large plants perhaps than have been exhibited in some former years, but the great bulk of those entered were notable for their handsome appearance and clean and healthy cultivation—the collection containing many rare and some unique specimens. The extreme drought which has prevailed in the vicinity of Baltimore lessened the display of fruits and vegetables, though there were some fine specimens in both sections. W. C. C. Carman of Baltimore county having a large number of fine apples and seasonable vegetables, and Mr. H. Weber, of Garrett county, some remarkably handsome cauliflowers, cabbage, potatoes, etc. Mr. Brackenridge, as usual, had the largest exhibit of pears. Exotic grapes were scarce, but those shown by Wm. Fraser, gardener to Mr. Wm T. Walters, were much admired for their size, color and bloom. Frank Coral, gardener to Mr. Wm. H. Perot, also had some good specimens.

Cut flowers were not abundant, nor floral designs, though some attractive specimens of the florist's art were deposited by Messrs. Samuel Feast & Son, Robt. J. Halliday, Jas. Pentland, Robt. Patterson and others.

The attendance was only moderate, and the efforts of the society to attract the public to its exhibitions are not attended with the success they deserve.

Seasonable Hints for Flower Garden and Pleasure Grounds.

Mr. Meehan in *The Gardener's Monthly* says:

Roses and many other things which flower from last season's wood, and which wood it is, therefore, important to preserve, may be saved by having the branches laid down under the soil. The tenderest kinds of roses may be successfully preserved by this method.

Bulbs, such as hyacinths, tulips and crocuses, should be planted at once. A very rich, sandy soil is the choice of the tulip and hyacinth. They should be set about four inches beneath the soil, and a quantity of sand placed around each bulb; after planting, a covering of manure may be put over the place of planting. Ground mice, some say moles also, are at times very destructive to these roots. No efforts should be spared to trap and destroy them. It is a very good plan to soak peas in water until they begin to swell, when they should be rolled in arsenic and buried in different parts of the soil near the beds.

All the different kinds of lilies, including the most beautiful and rare kinds of Japan lilies, are perfectly hardy, and beds of these are among the handsomest and sweetest adornments of the pleasure-ground through the summer and autumn months. A very dry soil does not suit these; a rich and strong loam, rather inclined to dampness, will grow them to perfection.

When the leaves have fallen many will commence pruning. Properly, summer is the time to commence pruning. The object of pruning in the winter season is to impart vigor to the tree, or to cause branches to push next season strongly and vigorously in such parts as are desired. A tree which is already growing vigorously, and which is shapen according to our wishes, can receive no advantage from pruning now. Any branches that cross each other, or that are otherwise misplaced, may, however, be cut out.

All scars made by the sawing off of any large branches should be painted over to keep out the dampness and to preserve them sound until the new bark shall grow completely over them. Many fine trees are prematurely lost through this neglect. The wood decays, water enters, and the tree soon becomes hollow and worthless. We always use paint, but others use gum-shellac, dissolved in alcohol, a bottle of which is always kept on hand ready for the purpose.

Moisture is a great absorbent of heat. We keep the atmosphere in some classes of greenhouses moist, in order to avoid changes of temperature, which are more rapid where the temperature is dry. It takes more coal to maintain a temperature at a certain point than a dry one, but where success is aimed at it is not the first cost that counts.

A correspondent who has been very successful in the culture of the amaryllis gives the following method: "In October, I put the pots on a hanging shelf in the cellar, and water about once a month till February, when I shake out of the pots and reset in the same pots with fresh earth. It rarely requires a large pot to get a good blooming bulb; four inches is large enough for most kinds. After repotting, I place them on the shelf again, and water once a week till about

May 20, when I place the pots out of doors in sun or shade, as most convenient. In a few days they begin to bloom, and some of them throw up flowers several times during the season. I have a number of varieties, and they give me as much pleasure as any flower I grow. As the flowers open, I take the pots into the house, where they are always admired."

In the gardens of Charles Spencer, near Germantown, Pa., English sparrows and robins played sad havoc with the strawberries. The gardener drew cords across the beds in various directions, and also suspended pieces of tin at regular distances along the lines. This was found to effectually frighten the sparrows, but the robins seemed to find pleasure in these adornments, for they were even more devoted in their attention to the fruit after the task was performed than before.

When travelling through France, the writer noticed whole orchards of cherries which were protected against the attacks of birds by having fish-nets drawn around the trees. Near large cities in our own country, where it is often difficult to keep cherries from robins and blackbirds, this may be found cheaper than any other mode of protection.

A paint made of gas tar and clay, used with a brush over the stems of grape vines before the leaves push out, is found by hot-house grape growers in England a sure remedy against mealy bug.

A few years ago a discovery was made that hot-house grapes could be preserved all through winter by cutting the bunch with a piece of stem and putting the stem in a bottle of water. Since then large fruit houses have been built which have special arrangements for racks with bottles, and much money has been made by grape growers who have gone extensively into this plan. Now a great move forward has been made by M. Villiers, a French grape grower, who finds that a potato will do as well as a bottle of water. His method is as follows: Toward the end of October he cuts the shoot with a cluster attached, sharpens the lower end to a point and sticks it into a potato. He then spreads the bunches out on straw, or dry hay, so that they shall not touch each other. Thus prepared these shoots keep quite as well as if the shoots with the bunches attached were inserted in bottles filled with water.

In the management of house plants the successful household seldom worries about repotting often. The plants having plenty of roots in a smallish space can take a great deal of water without injury; not being over-potted they do not get over-watered. Then tender fingers often turn over the leaves, and if an insect pest appears it is done for at once. These ravages are not allowed to remain long enough to do much damage, and hence there is no worrying over tobacco, soap, hot water or some other nauseous compound to be employed to get things to rights again. Success with house plants cannot be taught by a magazine, it must be born of love and matured by experience.

There is quite an art in lifting plants from the open ground into pots if they are to go on and bloom all the winter time. It will not do to let the leaves wilt much or they will not get up again. They have to be taken with reasonable ball, put into the smallest possible pot, well watered at once, and placed temporarily where the dry air will not draw the moisture from the leaves. The florist who has to lift bouvardias and chrysanthemums from the open ground to benches in the greenhouse, so as to have them in flower all winter, keeps the greenhouse closed for a few days, so that the moisture cannot get out. He syringes to add to the atmospheric moisture, and often shades the glass, for it is now known that light is as great an evaporator of water as heat itself.

The May King Strawberry.

A new candidate for public favor and supremacy in the field and garden at this time is the May King Strawberry, grown from seed of the Crescent, and now offered first by John S. Collins of Moorestown, New Jersey. The plant is healthy and vigorous, very early and productive, has a staminate or perfect flower or blossom. The fruit is of very bright red color and of best quality. Persons familiar with the Old Hovey Seedling of 28 or 30 years ago, will be reminded of its similarity in looking at and testing the fruit of this berry.

Garden Violets.

In our country, Sweet Violets, which should be the common treasure, are aristocratic flowers, seldom found outside of old family gardens, where they have bloomed for generations under the same hands, or in fashionable houses in winter, perfuming the air at half a dollar a bunch. Why they should be so reserved a flower it is hard to say. The Violet is a hardy plant, even in the ungracious climate of Boston, in whose suburbs are lovely old gardens, where the Box hedges and the Lily of the Valley beds and Violet borders have kept company for twenty years to my knowledge. How sweet it used to be to stroll in May afternoons past the old Watertown and Cambridge houses, where the Hawthorne showed its pink, and the Elms were in their veils of young green, and the air was soft with the odor of English Violets. I have always meant to deserve well of my country by having a large Violet bed, and stocking my garden so full of Lavender, Mignonette, and Snow-drops, Balm and other sweet things that they never could run out. If you wish to be well remembered, plant Violets.

The Violet is a blossom for all the year round, and there is not a month when one need be without fresh blooms of it from cold-frame, garden, or window-boxes. Planted in a shady corner of the garden, where yet they have an airy, well-drained nook, Violets will take care of themselves, with the kindness of a covering of dead leaves in fall. But they last so long and give such richness that the borders are worth preparing well. What the garden Violet dislikes most of all is standing with its feet in the wet, unlike the fragrant white wild Violet, which we find in meadows and bogs.

My Violet border is planned to give a succession of bloom the year round, the earth from the three-foot bed being dug out two feet deep, and the sides stoned up with rubble laid in mortar with which coal-ashes have much to do. This keeps the Violet roots from gadding, and from freezing, likewise. Nine inches of stone are filled in for drainage, with turf and some old pounded mortar above, to keep the earth from washing down, and the other foot is Violet soil—good strong loam for the basis, with liberal mixture of old barn-yard stuff, and the top leaf-mold, rich garden mold and sand with plenty of bone-dust, which Violets love. The border lies under the lee of a little wood which skirts the grounds, facing full south, but screened by tall plants the other side of the walk. Here the roots will spread into great crowns nearly two feet across, within the year, and every leaf will bear its blossom, one may say. In this favored spot one may feel sure of finding Violets in any month of the year.

In autumn, a wooden frame and sash goes right over the border; plants that have been growing in the shady corners of the garden are brought under cover, the old ones well enriched and half smothered in dead leaves, which are heaped around the frames, and the Violet season goes merrily into Christmas-tide. New plants are coming into bloom while the old ones are resting. They get their bone-dust, their weak tea of old leaves, old wood, and very old manure steeped in rain-water when the soil is very dry, and they do nothing but grow and blossom. Only one thing they ask—not to get too wet. You can hardly give Violets little enough water in cold weather. Only till the earth is dry several inches deep, need you water them, which will be once in two or three weeks. They will bear the sashes lifted in sunny noons, and warm winter rains for perhaps half an hour; but avoid letting them get drenched or having any drip from the sashes. That brings yellow leaf and decay among the crowns.

Very few people know the varieties, even, of sweet Violets which enrich the border. The English, the Neapolitan, and some recall the new Russian varieties, are barely known by name; but you will hardly find one well-educated person, not a gardener by calling, who can tell the difference. As the sweet Violet, *Viola odorata*, is native in England, Russia, Italy, and throughout Europe and part of Asia, we may look for differences of interest in all.

Neapolitan Violets are pale, long-stemmed, and so fragrant that you think of Violet Attar in the room with a cluster of them.

Maria Louise is deeper purple, and a rich bloomer, which with care, in the open garden, starting early in a sunny, sheltered place, will give flowers in spring and autumn.

The English Violet is deeper purple still, and the standard garden variety for ease of cultivation and sweetness. Roots of this should be planted in every sheltered spot, under shrubbery, on light wooded banks, the north-side of houses and arbors, wherever one wants the winds to be laden with sweetness.

The true *Russian Violet* is small; the *Czar*, large, deep purple, almost black by the side of others, and very sweet.

The Victoria Regina, a large deep-hued, scented Violet, is not to be confounded by hearsay with the *Queen of Violets*, which is white, double, and large, vying with the *Belle de Chatenay*, inimitable for its tinged pale petals, which suit the snow-wreath Heliotrope.

The winter cultivation of Violets is easy, and they are the most charming of house plants, bearing dry air and neglect with more equanimity than many favorites, only dying of gas and overheating.—*Cor. Am. Garden.*

Handling Apples.

The *New England Farmer* gives the following on this subject:

"The requisites for keeping apples sound through the winter are careful picking, careful handling and cool storage. A bruised apple will surely rot in a very short time when placed in a temperature favorable to the ripening process. A perfectly sound apple in a clean, damp room where it is almost cold enough to freeze, will keep sound till the next year's crop begins to grow. If one has a deep, cold cellar, where the temperature can be controlled, it will pay to store the crop for late market, but if no such convenience is within reach the crop had better be sold as picked from the trees. But however sold, they should be picked and handled with as much care as one would handle eggs. Our own method has been to take a long spring wagon to the orchard, and as many bushel baskets as it will carry when filled; then pick the apples from the trees into small hand baskets that will hold a peck and a half, or thereabouts, and fill the large baskets from these by careful pouring, for apples may be poured, as may eggs, without bruising, if held back so they cannot fall. When the baskets are all full the wagon is driven to the store room, where they are emptied into bins by careful pouring. If barrels can be procured, the apples may be placed in these direct from the small hand baskets, and carried to the cellar without transfer. The less the fruit is handled of course the better it will keep. Special pains must be taken; if anything but new barrels are used, that they are perfectly sweet and clean. Old flour barrels that have flour sticking to the sides of the staves will not keep fruit sound, but will give it a mouldy or musty taste as soon as placed in a damp cellar. Old barrels, if used at all, should be thoroughly washed and dried before using. Apples in store must not be exposed to currents of dry air, as this will wilt the fruit, especially the porous, rough skinned varieties, like the Roxbury russet. Perfectly sound apples may be headed up tight after they have remained in the barrels a few days."

A TREE overloaded with fruit, says P. Barry, can neither perfect its fruit nor ripen its wood properly.

Home Department.

Suggestions About Entertaining.

The conviction has grown upon me from year to year that we, country housewives, who are given to hospitality labor under great and unnecessary disadvantage in having our reception season include the hottest weather, when all the world is disposed to take things as easily and coolly as nature will allow; moreover, we have these extraordinary domestic duties which are calculated to make life far from easy, such as the fruit season, harvesting, and raising of poultry, all of which demand our care and individual attention.

It is hardly fair to ourselves to assume any extra care at such a time, nor is it fair to our guests that we should ask them to visit us when we cannot possibly devote a reasonable portion of our time to their entertainment, or to receiving ourselves, such pleasure from their visits as they undoubtedly expect them to afford us.

Of course such visitors as come to us from the cities find it the most pleasant time, because of the escape from the confinement of city houses and streets into the freer life of the country, notwithstanding their many superior household comforts and conveniences, but we will not suppose that our *friends* would wish to visit us for any such reasons alone. Country boarding houses and mountain and seaside resorts being open on every side, of which they can so easily avail themselves.

In inviting our friends it is presumably for mutual enjoyment, and therefore it were well to consider in extending invitations our own resources for giving and receiving pleasure. Those who care for us will hardly enjoy any manifest over-exertion on our part to provide for their creature comforts, and for those who do not care for us it is hardly worth while to so exert ourselves.

A desire to have our guests share with us the special products of the summer season is apt to make us forget the drawbacks, that while fruit is plentiful, we have the additional trouble of preserving a portion for winter use, and when fried chickens, etc., are in order we have other young chickens and turkeys to look after; also, while milk and butter are most plentiful they too create much extra labor, and when the harvesters are at work gathering the entire profits for the year, of our *business*, we have to provide for their entertainment.

What therefore may seem to the unthinking other portion of the world one superabundance of good things is really our stock in trade. It costs us our own time and labor, the time and labor of others, for which we have to pay, and is usually the revenue from the investment of our entire capital. From these resources we are as ready I think as any other class of people to entertain our friends and relations, but it should no more be taken as a matter of course, or of little consideration, than from those who ply their legitimate business in other channels and have the market-houses to resort to for provisions, and a larger community from which to procure servants to perform the labor it involves to entertain.

Indefinite invitations as to time or length of stay too often convey a meaning very different from the intention, they are oftenest an evasion of what people think is expected from them, and sometimes expected with very good reason. For instance having accepted certain hospitalities, it is due to those from whom they were received that there should, under favorable circumstances, be a reciprocal acknowledgment thereof, but when the party says, "do come *some time* to tea," to dinner, or "to spend the evening," as the case may be, the chances are that there is no real desire for the visit at any time. Frankness is always best, and it is no rudeness to say to a person given to extending such invitations, "I will, with pleasure, when you specify the time." On the other hand persons with true hospitable intentions very often ask their friends to come when it suits them to do so, and to stay as long as they wish, yet these same people sometimes find a too liberal construction has been put upon their meaning, and that there are times and circumstances when a friend, even, may come amiss and stay too long. It is therefore safest to specify a time both as to the coming and staying when a *visit* is contemplated. "Anglomania" is justly ridiculed, yet we may without subjecting ourselves to a suspicion of it, borrow some very good things from our British cousins, and this is one of them.

All rules, however, have their exceptions, and to this the exceptions are to be found in the case of those near and dear friends whose coming and going is like those of our own household; who share alike our pleasures and our pains. If self-service is necessary they serve themselves, and likewise think it in keeping with the affection that brought them to share in a measure our duties while we take secret council together; knotty questions, in art and science, as well as in the domestic economy have been ventilated while hands were busy preparing fruit or clearing the breakfast-table by hostess and guest, in some of the pleasantest homes I know. Idle visitors in these same houses who could gracefully ignore the circumstances calling for such assistance, while their presence contributed to the extra work, hardly derived as much satisfaction from their sojourn as did those adaptable guests whose coming was always an unmitigated pleasure.

Hospitality is one of our reserved rights, and I would not willingly curtail one of its privileges either in giving or receiving it, but I would so construe its laws that both giver and receiver may find the real soul satisfaction it implies. It is not essential to this result that entertaining should be entirely without trouble or care; on the contrary, it often is a pleasure to take such trouble as it involves, and the care may be only kindly solicitude for the welfare of our guests; but when trouble and care control us to the extent of a conflict between good house-wifing and good manners, itfis clear to my mind that we should find some way out of the dilema without sacrificing ourselves or our love of hospitality.

This brings me to the point from which I started, which is that we ought to change the season for receiving our visitors, instead of having it include the torrid wave that covers most of the time between the middle of June and the middle of August. Would it not be well to have it clearly understood that this season is reserved for strictly domestic purposes, which would leave one month in the beginning of the summer and two at its close to be apportioned as we saw fit among our friends, either of which admits of more outdoor pleasure than the reserved time, and both more free from demands of a domestic nature upon ourselves?

It would simplify matters considerably, and give our guests a chance to adapt their movements to our wishes, if they meant to accept. Should, we issue cards early in the season, something like this, for instance, Mr. and Mrs ——— solicit the pleasure of your company from the ——— to the ——— of ———. Please answer.

This would be in keeping with a sensible city custom, and would enable us to distribute our favors with a view to the pleasure of guests who would enjoy each other, and likewise meet our own pleasure and convenience, which are often sacrificed in having people happen together who are not congenial, and frequently so unequally distributed that there is a crowd where it is least desirable, and no one where it would be a real pleasure to have company.

Sensible forms often fail to become general, because they are under the ruling of fashion, whereas they would often prove to be of the greatest convenience to people who have no wish to be included among "the fashionables."

CERES.

Human Figs.

The people who have reared large families of children without any boys and girls among them are unfortunate. There are such people. A child without any childhood is a miserable little animal, and the poorest compliment that can be paid to a boy—if it is a true one—is that he is "a little man." I have read somewhere—perhaps it is a mistake—that a fig makes its appearance upon the tree a fig. Suffering no progressive changes, except to grow bigger. Once a fig, always a fig.

I do not think we want any more human figs. First the baby, then the breezy boy, then the boots, then the bother, then the young man, then the hope of the homestead—that is the good old-fashioned order of development. Not having the delight of sitting under my "own vine and fig tree," perhaps my knowledge of figs is imperfect, but yet I insist upon the boy. We do not want him wise and profound and owl-like and right-angle-triangled. What becomes of the precocious children seven or eight years older at their heads than they are at their heels? Once in a hundred times do they turn into anything at all. Say into men? Call the roll and see.

The writer knows a boy who never learned to swim because the water will drown,—never learned to ride a horse because horses run away,—never touched a gun because powder exploded, never played with the boys because he would tear his clothes,—never got further than "barn-ball," which means throwing a ball at the gable and catching it when it returns. He played that—and they let him—because he could play it alone.

Then there were several "becauses" that were never explained. He never went to children's parties, because,—he never learned to skate, because. Somebody exclaims, What did the fellow know? Was he an idiot? By no means. He could fulminate Pitt's reply to somebody about "the atrocious crime of being a young man," and repeat "Campbell's Pleasures of Hope," and "My name is Norval." He knew some Latin and some Greek, and a little about Jupiter and the Styx; but the sticks he knew most about were sticks of stove-wood that he piled in the wood-house on Saturday afternoon, when other boys were kicking up their heels in a frolic. Not that he was overworked. By no means. He had the kindest father and the most loving mother in all Christendom, but then he was to be a little fig. Boy nature cropped out and he fell in love with a little girl. Of course, like Desdemona's handkerchief, he was "too little" for any such nonsense, and so an extinguisher night-cap was put upon the flicker of flame, and out it went!

Now this boy, as I have heard, was not an unhappy boy. He had a blessed childhood, but the trouble was, he peopled that childhood with things of his own creation. He dreamed in the day time. He grew sensitive, timid, shy. He was not the kind of turtle whose voice "is heard in the land," but the other sort that draws its head into its shell and never says a word.

He fell in love again, with a woman old enough to be his—aunt, and who thought no more about him than she would of a tree-frog. He fell in love with—its sounds incredible, and is absurd, but it is true—with her black stockings! That color, of all others, in or out of the solar spectrum! He was fond of reading encyclopedias. He read Nicholson's old twelve-volume fellow by the month. He happened upon the article "consumption," and he had the symptoms. "The liver complaint," and that, too. The article on "the heart" fairly scared him. His own turned over and bounded about after an unruly fashion, and he was sure he had heart-disease. In fact, he was a chameleon, and took the color of the thing he alighted upon.

The dark was as populous as London. The distant woods he longed to wander in, and never could, were filled as full of fancies of his own make as a sunbeam is of midges. If he had possessed tops, whips, trumpets, dogs, birds, squirrels,—it is immaterial what, if only they were material—he would have had something more wholesome to play with than idle fancies and vain imaginings. A stray dog followed that boy home one day—not perhaps without certain sly and friendly snaps of the thumb and finger, for the lad had never learned to whistle—a small colored cur that carried his tail to one side like a helm put to starboard. He smuggled him into the wood-house, and hid him and fed him and managed to keep him out of sight. And the boy's mother aided and abetted, and the dog helped him to recover from consumption and liver complaint and black stockings, and was running down his morbid fancies and shaking them to pieces as if they were chipmunks, when, one unlucky day, that dog impudently barked at the boy's father! The father exclaimed against the strange dog, instituted an investigation, condemned the boy and banished the dog, and the fancies returned and all the evil symptoms out of the encyclopedia. I have heard him say that, a quarter of a century afterward, he often caught himself stopping in the street to stare after some little dingy cur with a particular short trot, and that carried his tail to starboard, and think of poor "Watch," who, he hopes has gone with Pope's Indian dog to some "equal sky." Dogs are good for boys and so are robins and rabbits.—*Summer Savory.*

Selected Household Hints.

Here is a hint for a careful housewife who wishes to make the most of everything. When your red table cloth is too much worn in spots to use any longer on the table, cut the good parts in the shape of napkins, fringe them out for about an inch, if inclined to ravel easily over-cast them, and it will be many a long day before any member of your family will discover that they are not regular "boughten" fruit napkins.

The mothers of the present day must form the men and women of the future. No degree of masculine development can make up for the lack of mental and physical cultivation in woman. It is the mother who gives the element of greatness. No nation can advance where everything that goes to the cultivation of woman is neglected; and no nation can fail of greatness and of success where women are genuinely respected.

For a pretty work basket take coarse tidy-cotton, and crochet a piece that can be drawn over a good-shaped bowl, or basket-shaped block, and then, after stretching it tightly over the form, starch it well, and thoroughly dry, then varnish it with gum shellac dissolved in alcohol. In a day or two it can be easily taken from the form and will then be a stiff basket. Line with some bright goods and tie two knots of ribbon on either side to match the lining. A flat crochet border around the top is a pretty way of finishing it.

As there is now a great difficulty in obtaining efficient domestic help, press your girls into the service. If a daughter evince taste and aptness for any branch of work, encourage her in it, and pay her for what she does and let her buy her own clothes. It comes out of her parents' pockets any way, and this will serve to make her feel independent and take an interest in her work. If parents would take this course, they would not need to employ so much domestic help; and should misfortune overtake them, their daughters would not be left helpless.

A table should be made to look as attractive as possible, and a very simple meal will

become appetizing if its surroundings and appointments are pleasant. Tired, weary housekeepers who are obliged to prepare their own meals, may smile at the idea of spending time over setting a repast daintily, or to preside at the table as though they were entertaining guests, but they will find that it is well worth the trial, and that the meal that was hitherto a simple interruption from the cares and occupations of the day, has become an opportunity for the interchange of pleasant thoughts and the rest and refinement of the mind as well as of the body. Every housekeeper should be supplied with a sufficient quantity of table linen that she may be able to change often and avoid using a cloth when soiled. Clean, spotless linen if *not* very fine, looks much better than showy, handsome, but soiled damask. Nothing makes a table look prettier than glass, and no housekeeper need feel sorry that she cannot use silver instead. Even cheap, common glassware, that costs but a trifle, can be made to look really elegant on a table when washed carefully and polished until bright and transparent. A snowy cloth, spotless china, and clear crystal, with a water lilly resting on a bed of green leaves in a glass dish, or a cluster of wild flowers, arranged gracefully with fern and grasses in a vase, placed in the centre of the table, or even a single flower laid upon each napkin, and the various dishes put on in order will make of any table a "thing of beauty," where all who come will be inclined to linger.

Hygiene.

Taking Medicines.

Mischief is often done by the indiscriminate use of medicines. The idea is well expressed by the inscription on an old tombstone:

"I was well; I wished to be better;
I took physic, and here I am!"

The intelligent physician does not profess to cure disease through the direct agency of the remedies he prescribes; these are given to remove obstructions that interfere with the recuperative efforts of nature. If there are no obstructions to remove the effect of drugs is to interfere with the natural and healthful movemen's of the machinery of life. Health is maintained by "good living"—a term that comprehends a great deal. It consists in having food, properly cooked, at every meal; clothing appropriate to the changing seasons; and moderation in all things. Such a person might require no medicine during a long life.

I must admit, however, that such an instance would be exceptional, even to one making the effort to live in that way. We cannot always procure well-cooked foods, nor can we always predict sudden changes of the weather in time to protect ourselves against them. But we can aid nature in throwing off disease, by abstinence and such other prudential means as would occur to any thoughtful person, instead of eating heartily and trusting in drugs to overcome our ailments.

Who ever saw an habitual medicine-taker who enjoyed reasonbly good health? All medicines debilitate, and that drawback must be duly considered before taking them. Think of the quantities of pills that are used. Most of these are taken to relieve constipation. Unfortunately the relief is only temporary, and the doses must be repeated often, thus weakening the stomach and incapacitating it for its natural work. If medicine is used for the relief of constipation it is better to employ it in *suppositories*, but a better plan than either is to cure the trouble by means of a proper diet and regular and active exercise or work in the open air. Thousands of drunkards, with legacies of sorrow and crime and broken hearts, are made through dram drinking, commenced at first for the relief of dyspepsia or colic, and continued through excuses and subterfuges that a depraved appetite strives to make plausible.

The little household remedies have their uses, and they have also their abuses. There are occasions when such remedies as camphor, brandy, paregoric, laudanum, ginger, and pills and powders, may be of great service. The important point is to know when to use them; that would be perhaps once where they are ordinarily employed ten times. The best of all remedies—and every person should have a little constantly on hand—is common sense. If one experiences inconvenience in eating, nature will bring relief sooner and more effectually if left to herself, than by efforts to aid her with liquors and tinctures that benumb the stomach and retard healthy action. Rest, warmth and abstinence are the proper remedies for all ordinary ailments. Wholesome and nuitritious food, the comforts of a good home, vigorous and regular exercise, seasonable clothing, fresh air constantly, and eight hours of sound sleep out of every twenty-four, and you may "*throw physic to the dogs.*"—*Hall's Journal of Health.*

Baltimore Markets—Oct. 17.

Breadstuffs.—*Flour.*—The market is quiet but steady. We quote as follows:

Howard street and Western Super $2.25@2.00; do. do. Extra $3 00@3.50; do. do. Family $3.75@4.75; City Mills Super $2 87@2 75; do Extra $3@3.50; do. (Rio brands) Extra $4.00@4.75; Baltimore Winter Wheat Patent $6.00; do. High-grade Family $5.50; do. Second-grade Extra $5 25; do Third-grade Extra $5.00; Fine $2@2 25; Rye Flour $3.75@4 00; Corn Meal per 100 lbs. $1.50@1.60; Colbert's Excelsior Graham $7.00.

Wheat.—There is a good demand for choice Southern from both millers and shippers, and the market is steady. Fair to choice Fults sold at 83@85 cts., prime mixed at 86 cts., and good longberry at 92 cts.; common to fair parcels ranged from 75 to 82 cts. The market for Western ruled fairly active but irregular and closed dull at about the lowest prices. The closing quotations were at 82@82¼ cts. for spot, 83¼@83¾ cts. for November, and 84¾@85 cts. for December.

Corn.—A good demand is reported for small lots of Southern offered, and the market is firm. Old white sold at 58 cts for fly cut, new do. at 58@60 cts. for good to prime, and new yellow at 55½@60 cts. as to condition. Western continues dull and nominal.

Oats.—The offering is not urgent, but the demand is moderate and the market is quiet and steady. We quote Maryland and Pennsylvania at 32@35 cts., mixed Western at 30@32 cts. and white do. at 32@34 cts.

Rye.—The market is quiet and nominally steady, with moderate demand and supply. Good to prime Maryland is quoted at 60@65 cts.

Seeds.—The demand for Clover is moderate and the market is quiet and slightly easier. Small lots good to prime sold at 8@8¼ cts. ₮ lb. Timothy is quiet and easy at $1.35@1.40 ₮ bushel for car-lots.

Tobacco—*Leaf.*—The market for Maryland is firm with a good demand for all the desirable grades received. Good ground leaves are wanted and sell quickly at full prices. The receipts of Ohio are small, and the market is quiet and firm. We quote Maryland inferior frosted $2@3; do. sound common $3.90@5; good common $5.50@6.50; do. middling $7@8.50; do. do. good fine red $8.50@11; do. fancy $12@14; upper country $8@16; do. ground leaves, $3@6. Ohio inferior to good common, $4@6; greenish and brown $7@8; do. medium to fine red $8@11; common to medium spangled $7@11; do. fine spangled and yellow $12@20; do. air-cured medium to fine $7@14.

Live Stock.—*Beef Cattle.*—At the opening of the retail market the tops and better grades of butcher Cattle were a shade higher, but quotations for these closed about the same as last week, while other grades were ¼@½c lower. Prices ranged as follows: Best, $6@6.12½; that generally rated first quality, $4.75@5.62½; medium or good fair quality, $3@$4 87½; ordinary thin Steers, Oxen and Cows, $2.50@2.75. Extreme range of prices, $2.50@6.12½. Most of the sales were from $3.50@5.37½ per 100 lbs.

Swine.—Trade has been fair to good, with but little if any variation in prices. We quote common rough Hogs at 6@7¼ cents; better grades, 7¾@7¾ cts., and extra 8 cents per lb. net.

Sheep and Lambs.—There appears to be enough for a very limited demand from butchers, while stock Sheep are very dull. We quote butcher Sheep at 2½@4¼ cts., and Lambs at 3@5¼ cts. per lb. gross. Stock Ewes $1 50@2.50 per head.

Farm in Baltimore Co. For Sale,

Or Exchange for City Property.

Containing 150 acres; about 25 to 30 acres in thriving timber, principally oak and chestnut; well watered and admirably adapted to a dairy or market farm; the soil is kind and susceptible of the highest improvement; it is now principally set in grass. It is at the 15-mile stone on the York turnpike, fronting on both sides of the road, and five stations on the Northern Central R. R.; can be reached at distances of 1 to 3 miles, by good county roads. This is the circle of the members of the Gunpowder Club, and is undoubtedly one of the best locations in the county. Churches of all denominations, and schools, public and private, are convenient. The York turnpike is one of the very best, and the distance from the city permits a round-trip a day for wagoning. Probably no healthier spot in the world can be found. It is laid off in fields of 12 to 15 acres, to most of which easy access is had to water for stock. The dwelling, which is commodious, and large barn, are of stone, with other outhouses, and though old, can be made very comfortable at a reasonable expense; and there are several admirable sites for residences on the premises. This property could be advantageously divided into small lots and sold at a very great advance on the price asked for the whole. Lots on the road have brought as high as $500 an acre, and the extent of the frontage on the turnpike, in the hands of an enterprising man, could be turned to excellent account, but the present owner is indisposed to take the trouble requisite to accomplish this, and would prefer selling the whole together. A gentleman with a very small income independent of the farm, could live on this place without labor, saving the rent of a city residence, by renting the fields on shares to be farmed under his control, reserving a garden and stabling, and the pasturage necessary for his stock. A small tenant's house on the premises would rent for the amount of taxes on the place. As I cannot occupy the place myself, I am willing to sell it on the most reasonable terms, or exchange it for city property in a good locality. For further particulars apply to the subscriber, at office of *American Farmer*. SAM'L SANDS.

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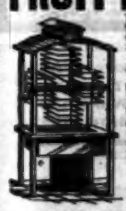

Is the PIONEER & LEADING MACHINE OF ITS KIND IN THE MARKET. It has been in use for 10 years, with highly satisfactory results. We make 3 SIZES. The two smaller sizes for convenience of small capitalists, and for sections where the fruit crop is not very large. Send for Descriptive Circular and testimonials to

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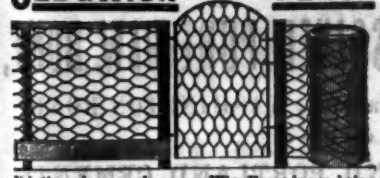

It is the only general-purpose Wire Fence in use, being a strong net work without barbs. It will turn dogs, pigs, sheep and poultry, as well as the most vicious stock, without injury to either fence or stock. It is just the fence for farms, gardens stock ranges, and railroads, and very neat for lawns, parks, school lots and cemeteries. Covered with rust-proof paint (or galvanized) it will last a life time. It is superior to boards or barbed wire in every respect. We ask for it a fair trial, knowing it will wear itself into favor. The Sedgwick Gates, made of wrought iron pipe and steel wire, defy all competition in neatness, strength, and durability. We also make the best and cheapest all iron automatic or self-opening gate; also cheapest and neatest all iron fence. Best Wire Stretcher and Post Auger. For prices and particulars ask hardware dealers, or address, mentioning paper, SEDGWICK BROS., Manf'rs, Richmond, Ind.

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100 Bags for Sale. It is as hardy as other Clovers.
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HARD WOOD ASHES AS A FERTILIZER.

150 Car loads for sale. Can be delivered at any railroad station in the Eastern, Middle or Southern States in car loads of 14 tons. Dry unleached ashes from 25 cts. to 30 cts. a bushel; leached ashes from 15 to 18 cts. a bushel, according to locality. Jas. Hartness, Detroit, Mich.

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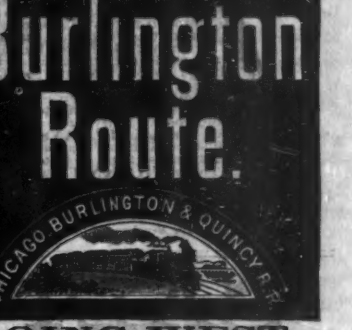

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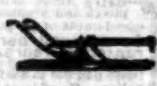

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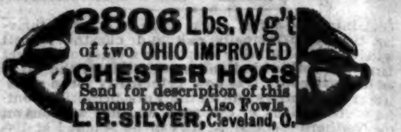

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